Your company internal use only 2007 SEP.

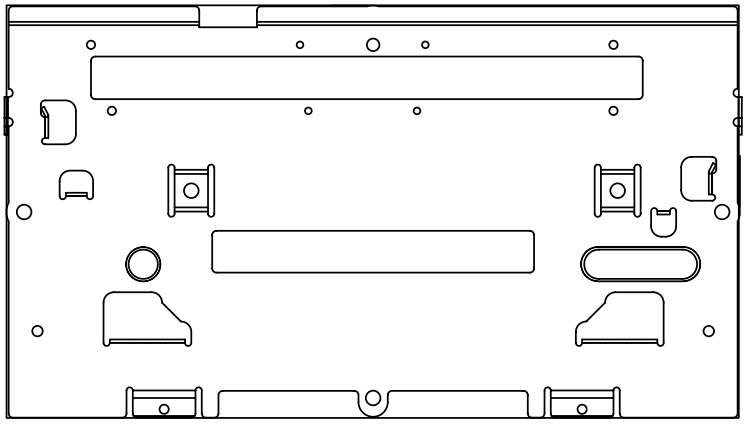
MITSUBISHI MOTORS

SERVICE MANUAL

AM / FM-ST (MW / LW / FM-ST) ELECTRONIC TUNING RADIO, 6 DISC CD CHANGER

Model : ***DY-6MW7U53-2***

PART No. **: 8701A237**
MELCO CODE **: 34U241**



For the mecha part, please refer to the service manual of **CDX3(955050)**.

CONTENTS

- FEATURES and SPECIFICATIONS 2
- OPERATION ..... 3~5
- RADIO DATA SYSTEM 6
- REAR VIEW and CONNECTORS 7
- BLOCK DIAGRAM 8
- SYSTEM CONFIGURATION 8
- DISASSEMBLING PROCEDURES ..... 9~11
- EXPLODED VIEW and PARTS LIST 12
- IC EXPLANATION ..... 13~16
- ELECTRICAL PARTS LIST 17,18
- PARTS LAYOUT ON PRINTED CIRCUIT BOARD
  PCB-MAIN 19,20
- SCHEMATIC DIAGRAM
  PCB-MAIN ..... 21~25
- VOLTAGE 26,27
- WAVEFORM 28,29

MITSUBISHI ELECTRIC CORP. SANDA WORKS

SE018107093E

Copyright (c) Mitsubishi Electric Corporation

FEATURES and SPECIFICATIONS

FEATURES

Radio

- Manual preset function / Store 6 AM(MW) stations.
- Manual preset function / Store some FM stations. (EU : 18 stations / AUS, CHINA, GCC and ROW : 6 stations)
- Manual preset function / Store 6 LW stations. (EU only)
- Auto Preset function / Store 6 AM stations and 6 FM stations. (AUS, CHINA, GCC and ROW only)
- Auto Store function / Store 6 AM stations and 6 FM stations. (EU only)
- Tune control function. (Rotary Switch)
- ATC function. (Control BASS and TREBLE, Only AM mode)
- AM noise killer function. (AM-NK)
- RDS function. (EU only)

CD Changer

- Built-in CD auto changer. (6 disc)
- Power load / Power eject function.
- Protecting laser pickup. (As high temperature)
- Fast track up and Fast track down function.
- Any Time Load function. (All mode and ACC OFF)
- Any Time Eject function. (All mode and ACC OFF)
- Reload function.
- Supporting only 12cm disc. (Not supporting 8cm disc)
- MP3 play function.
  (MPEG1 AUDIO LAYER3, MPEG2 AUDIO LAYER3)
- Shock proof memory.
- Continuous loading the disc. (Long pushing LOAD button)
- Continuous ejecting the disc. (Long pushing EJECT button)
- Title display function.
- Fast-forwarding and fast-reversing function.

[CD-DA]

- Repeat function. (1 track / 1 disc)
- Random function. (1 disc / All disc)

[MP3]

- Folder Up / Down function. (TUNE knob)
- Repeat function. (1 file / 1 folder)
- Random function. (1 folder / All folder)

Audio Part

- High power, 4 ch output. (4Ω load)
- Adjustment of BASS, MID, TREBLE (± 6 step) and BALANCE, FADER (± 11 step). (TUNE knob)
- Fixed-EQ (6 band x 4 ch) / Adjusting the sound filed characteristic.
- Auto loudness function / Changing the frequency characteristic.
- Limiting the value (BASS, TREBLE) as volume MAX.
- Connecting the AMP and the RSES.
- Customizing sound characteristic / Music type, Sound Field, BASS, MID, TREBLE, FADER, BALANCE.

Others

- Sounding the beep as the long pushing button.
- Interrupting the telephone voice.
- Checking the speaker connection.
- Operated the steering remote control.
- Telephone mute function.

Changes from DY-6MW7U53

- PTY is supporting Italian.

SPECIFICATIONS

AM (MW) Radio

- Frequency Range
  - EU : 522 ~ 1611kHz (9kHz step)
  - AUS : 531 ~ 1710kHz (9kHz step)
  - CHINA : 531 ~ 1620kHz (9kHz step)
  - GCC : 531 ~ 1602kHz (1kHz step)
  - ROW : 531 ~ 1710kHz (1kHz step)
- Sensitivity : Less than 32dB
- Signal/Noise Ratio (15dBμV) : More than 6dB

FM Stereo Radio

- Frequency Range
  - EU / AUS / CHINA : 87.5 ~ 108.0MHz (0.1MHz step)
  - GCC / ROW : 87.5 ~ 108.0MHz (0.025MHz step)
- Separation Characteristic : More than 14dB (43dBμV)
- Signal/Noise Ratio : More than 17dB

LW Stereo Radio (EU only)

- Frequency Range : 153 ~ 279kHz (1kHz step)
- Sensitivity : Less than 32dB
- Signal/Noise Ratio (15dBμV) : More than 6dB

CD Changer

- Dynamic Range : More than 65dB
- Signal/Noise Ratio : More than 65dB
- Channel Separation : More than 55dB (1kHz)

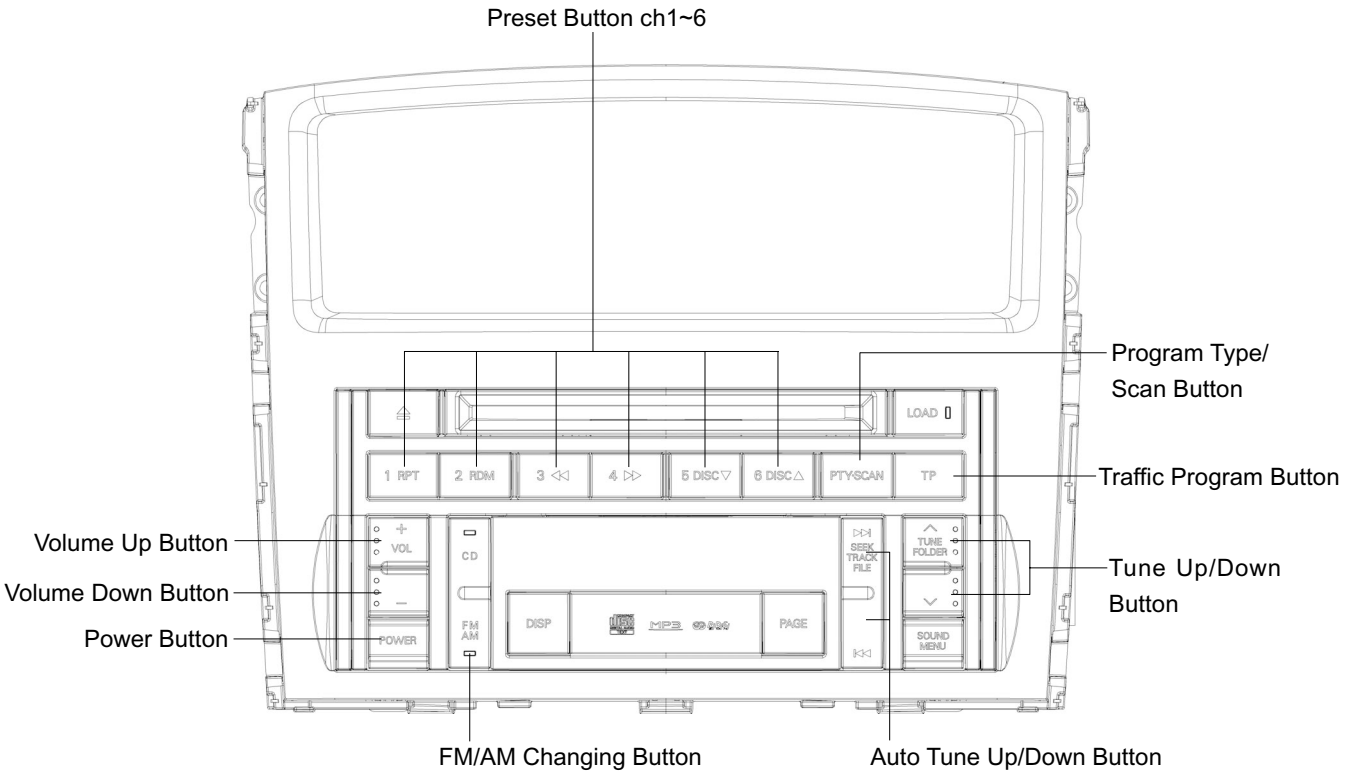
Others

- Power Supply : DC 13.2V (10.0~16.0V) Negative ground
- Battery Back Up Current : 1mA
- Current Consumption : BATT 2.4A ± 20% (Output 1W)
- Maximum Power Output : 35W x 4ch
- Output Impedance : 4Ω (SP Output)
- Dimensions : 178mm x 151.3mm x 100mm (W x D x H)
- Weight : 2.1kg

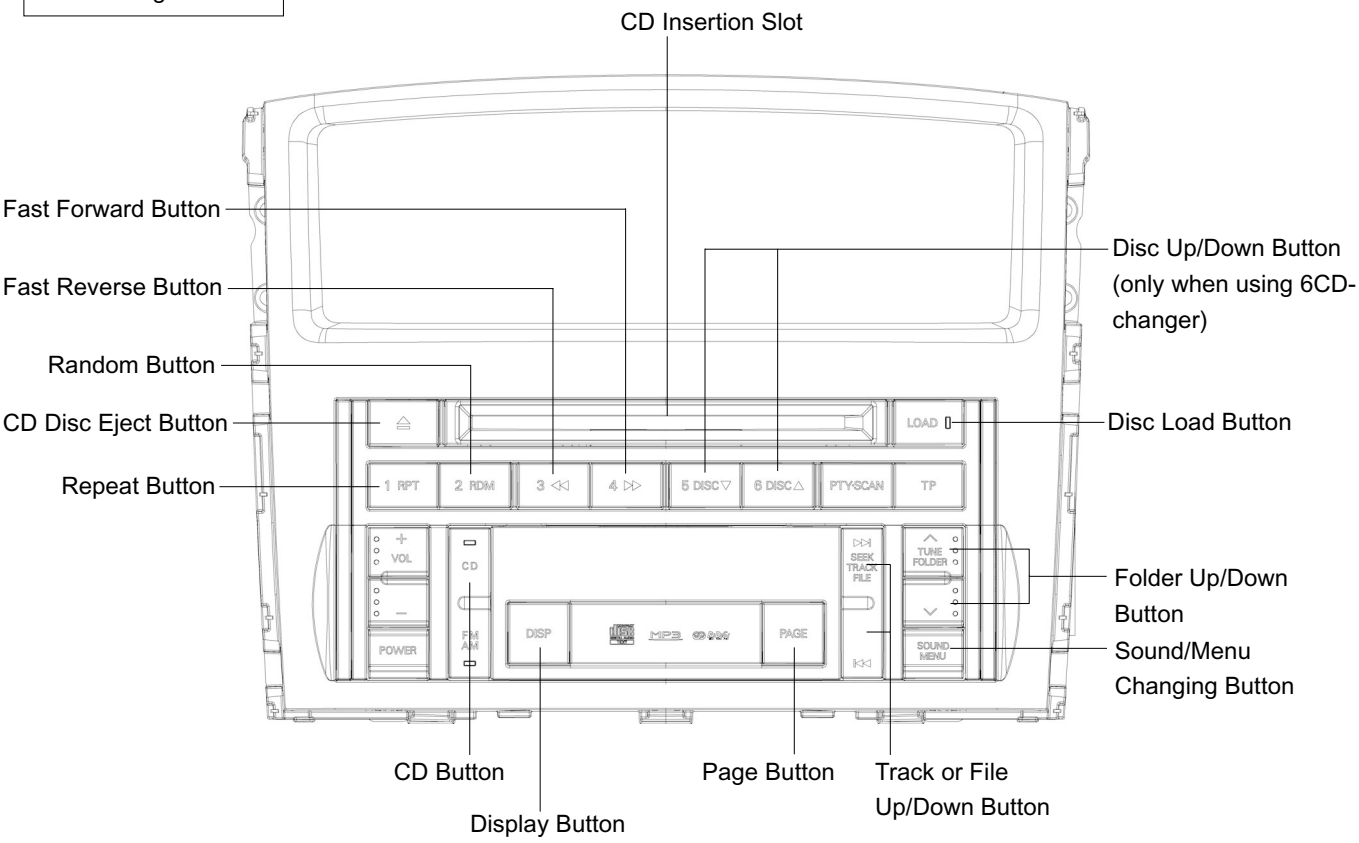
OPERATION

< SW-6ME7BLN, SW-6ME7BLP > (for EU)

Radio Mode

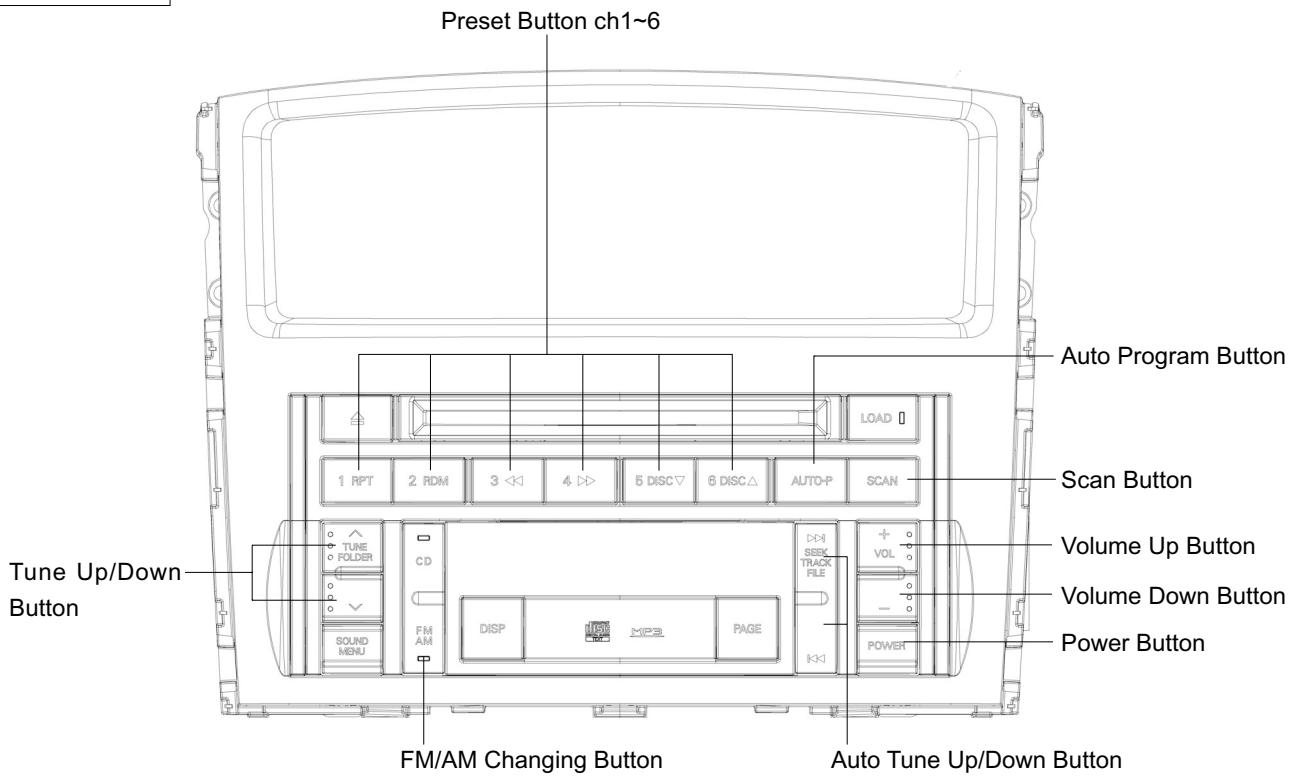


CD Changer Mode

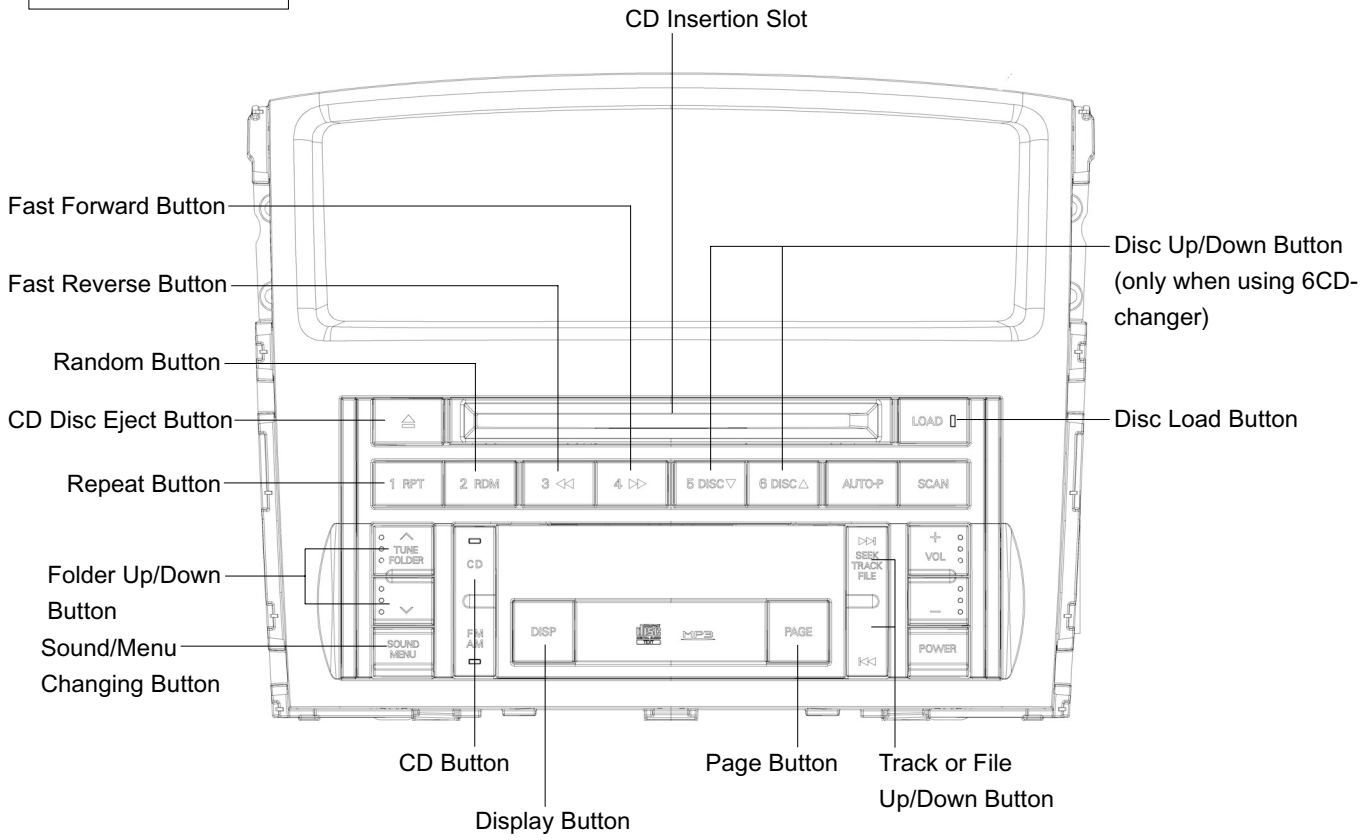


< SW-6MA7BRN, SW-6MA7BRP > (for AUS)

Radio Mode

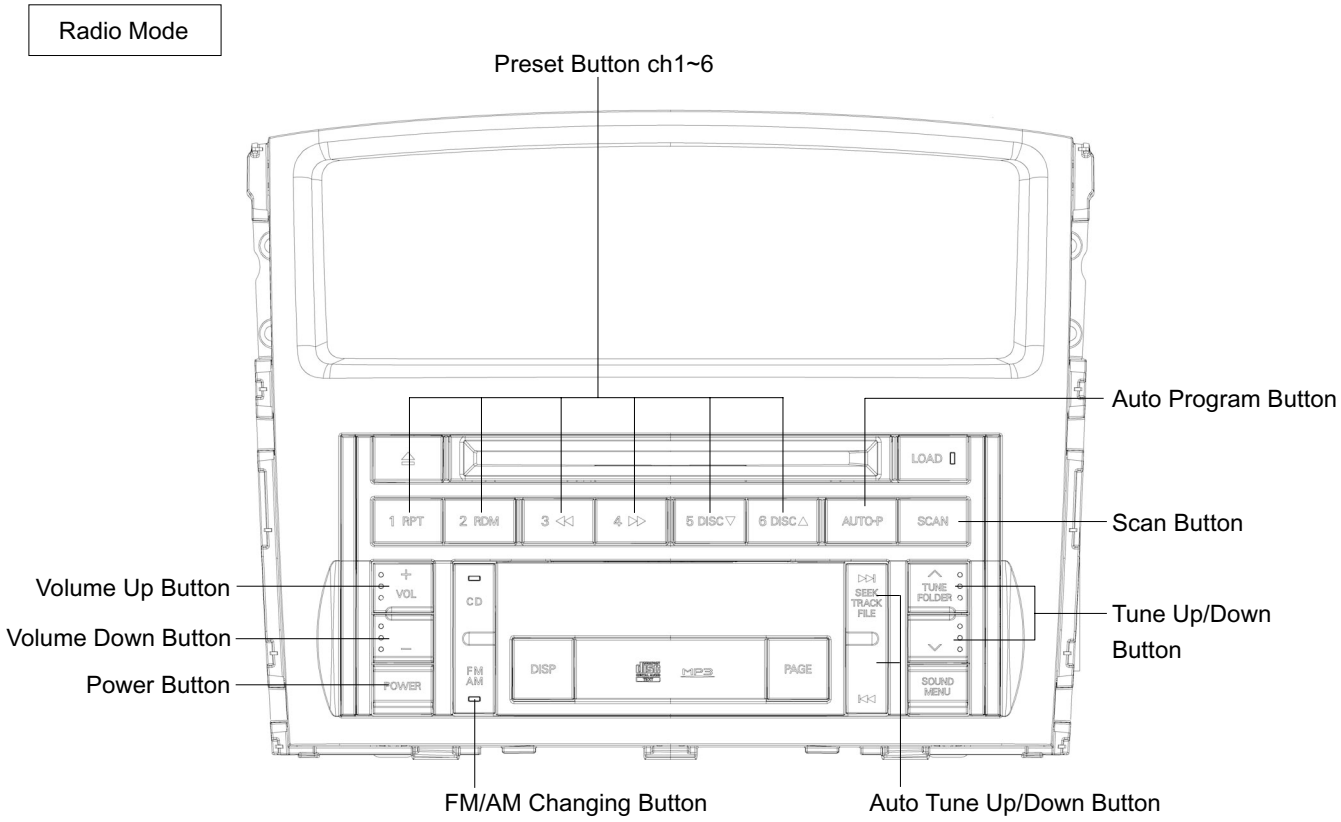


CD Changer Mode

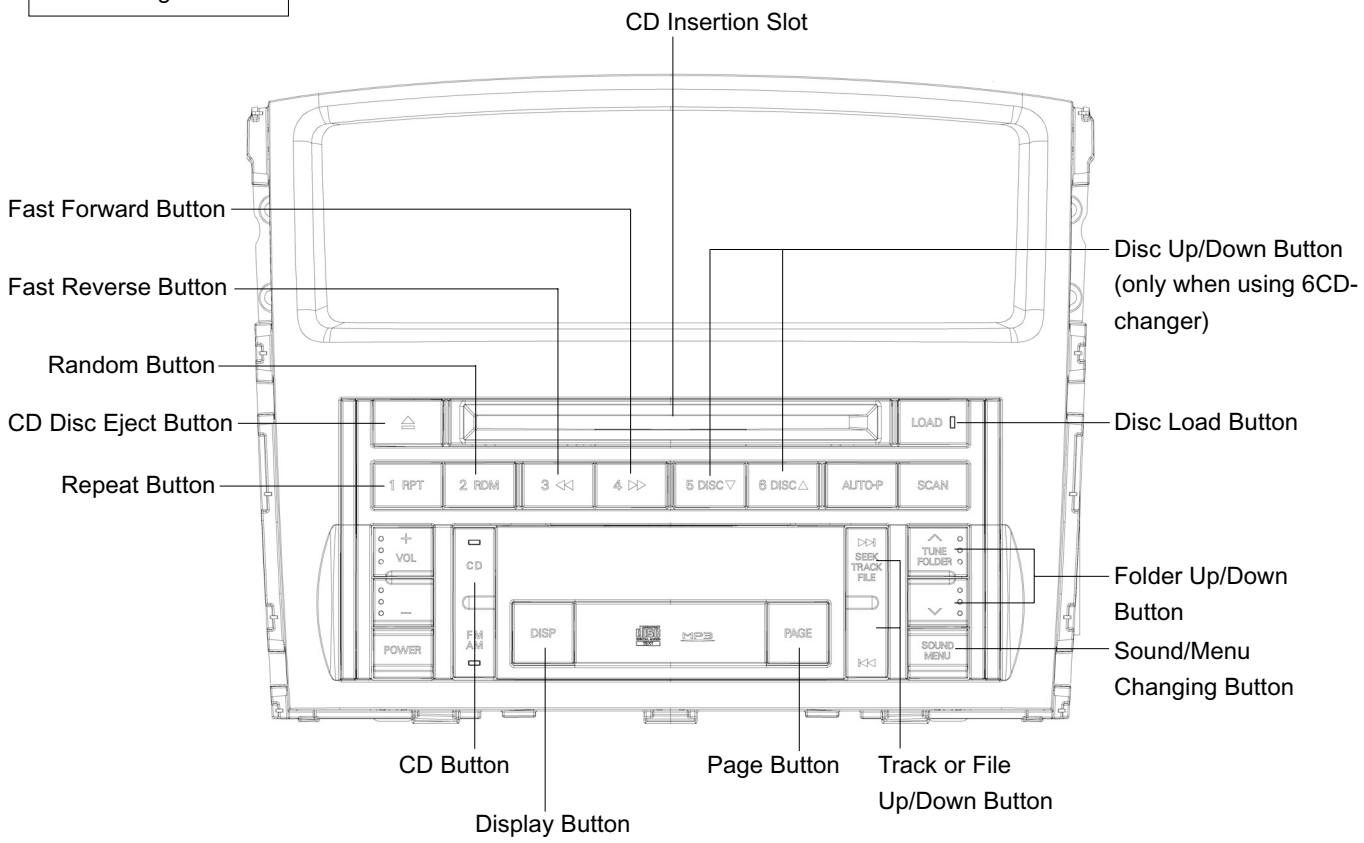


< SW-6MX7BLN, SW-6MX7BLP > (for CHINA, GCC and ROW)

Radio Mode



CD Changer Mode



RADIO DATA SYSTEM (EU only)

It automatically identifies RDS station by detecting RDS signal transmitted from UKW stations.

1) PS (Program Service) Name

At the statement of RDS data receiving PS Name (station name) should be displayed (priority over freq.).

2) TP (Traffic Program) and TA (Traffic Announcement)

a) Push **TP button** to activate TP function with " TP " indicator in display.

When TA is received, display shows " TRAF INF " then the station name of TA transmitter.

The unit can receive TA when broadcasted from not only current station (If it is TP station) but the other network stations supported by EON.

When TA is over, the original program (even CD) is recalled and will be superseded again when the next TA is broadcasted.

When you want to skip TA during receiving, just push TP button to switch off TP mode.

b) If current station is not a RDS one, display shows " NO RDS " then station frequency.

3) PTY (Program Type) Search

Your favorite program among 29 classifications can be selected, then its qualified station is automatically searched.

a) Push **PTY button** to display PTY indicator and last PTY, then searches stations with same PTY.

b) You can select your favorite PTY among the 29 categories classified in below using **Tuning button** or **preset button** (CH1 to CH6) while PTY indicator appears in display.

c) When a desired PTY station can not be received the last tuned station is restored with " EMPTY " displayed for 5 seconds.

4) PTY (Program Type) Language Selection

You can select your favorite language among English, Swedish, French, German and Italian.

5) AF (Alternative Frequency)

With this function, the unit can keep the best receivable station automatically among the same network as the current station, when it becomes too weak and hard to listen.

(Initial setting at purchase is AF check ON.)

<AF check ON/OFF operation>

a) After switch off the power, then hold down **CH5 button** and press the **Power ON/OFF switch** while 2 seconds. At statement of AF check ON, display shows " AF ".

6) EMERGENCY ALARM

With this function, when the " Emergency Program " should broadcasted the radio should receive it automatically at the statement of ACC ON. At this time display shows " ALARM ".

7) CT (Clock Time)

Some RDS station broadcast time signal.

When CT function is ON, CT indicator appear in display, and such a station is being received, this function automatically adjusts clock to correct local time.

a) How to CT function ON/OFF

After switch off the power , then hold down **CH4 button** and press the **Power ON/OFF switch** while 2 seconds. At statement of CT check ON, display shows " CT ".

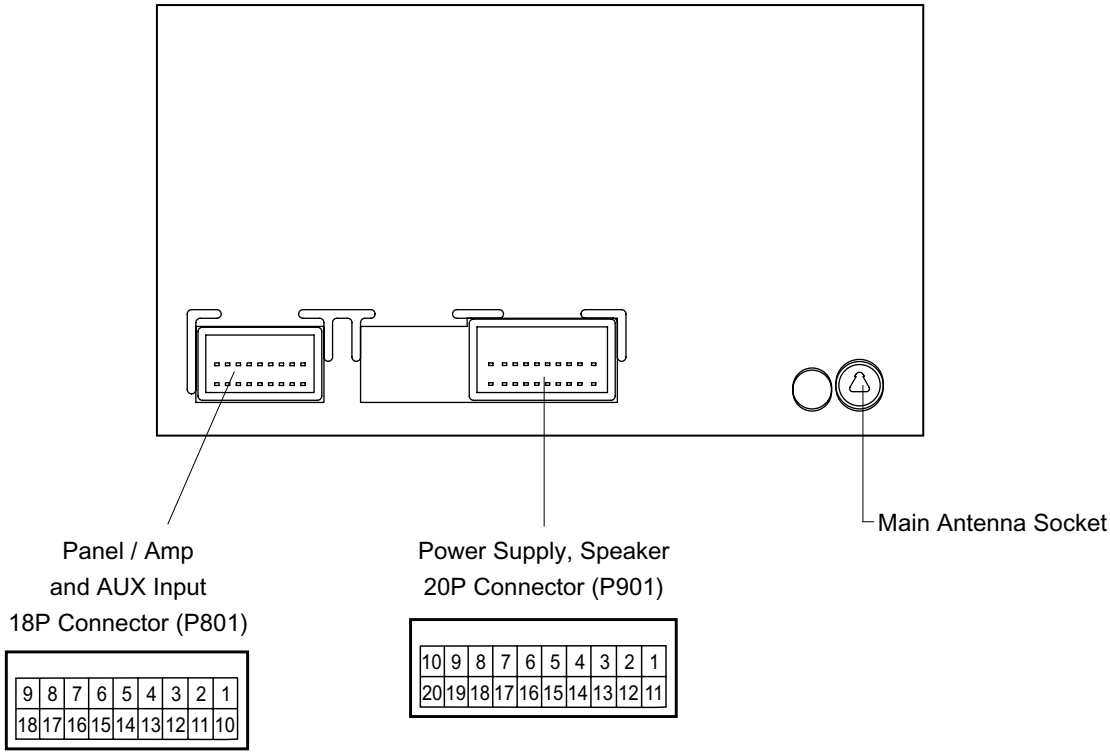
Classification Table of PTY

1	News	(NEWS)
2	Current Affairs	(AFFAIRS)
3	Information	(INFO)
4	Sport	(SPORT)
5	Education	(EDUCATE)
6	Drama	(DRAMA)
7	Culture	(CULTURE)
8	Science	(SCIENCE)
9	Varied	(VARIED)
10	Pop Music	(POP M)
11	Rock Music	(ROCK M)
12	Easy Music	(EASY M)
13	Light Classics	(LIGHT M)
14	Classical	(CLASSIC)
15	Other Music	(OTHER M)
16	Weather Information	(WEATHER)
17	Finance	(FINANCE)
18	Children	(CHILDREN)
19	Social	(SOCIAL)
20	Religion	(RELIGION)
21	Phone in	(PHONE IN)
22	Travel	(TRAVEL)
23	Leisure	(LEISURE)
24	Jazz	(JAZZ)
25	Country	(COUNTRY)
26	Nation Music	(NATION M)
27	Oldies	(OLDIES)
28	Folk Music	(FOLK M)
29	Documentary	(DOCUMENT)

Initial Setting PTY in each CH button

CH No.	PTY	
CH 1	News	(NEWS)
CH 2	Sport	(SPORT)
CH 3	Weather Information	(WEATHER)
CH 4	Pop Music	(POP M)
CH 5	Rock Music	(ROCK M)
CH 6	Classical	(CLASSIC)

REAR VIEW and CONNECTORS


Panel / Amp
and AUX Input
18P Connector (P801)
9 8 7 6 5 4 3 2 1
18 17 16 15 14 13 12 11 10
Power Supply, Speaker
20P Connector (P901)
10 9 8 7 6 5 4 3 2 1
20 19 18 17 16 15 14 13 12 11
Main Antenna Socket

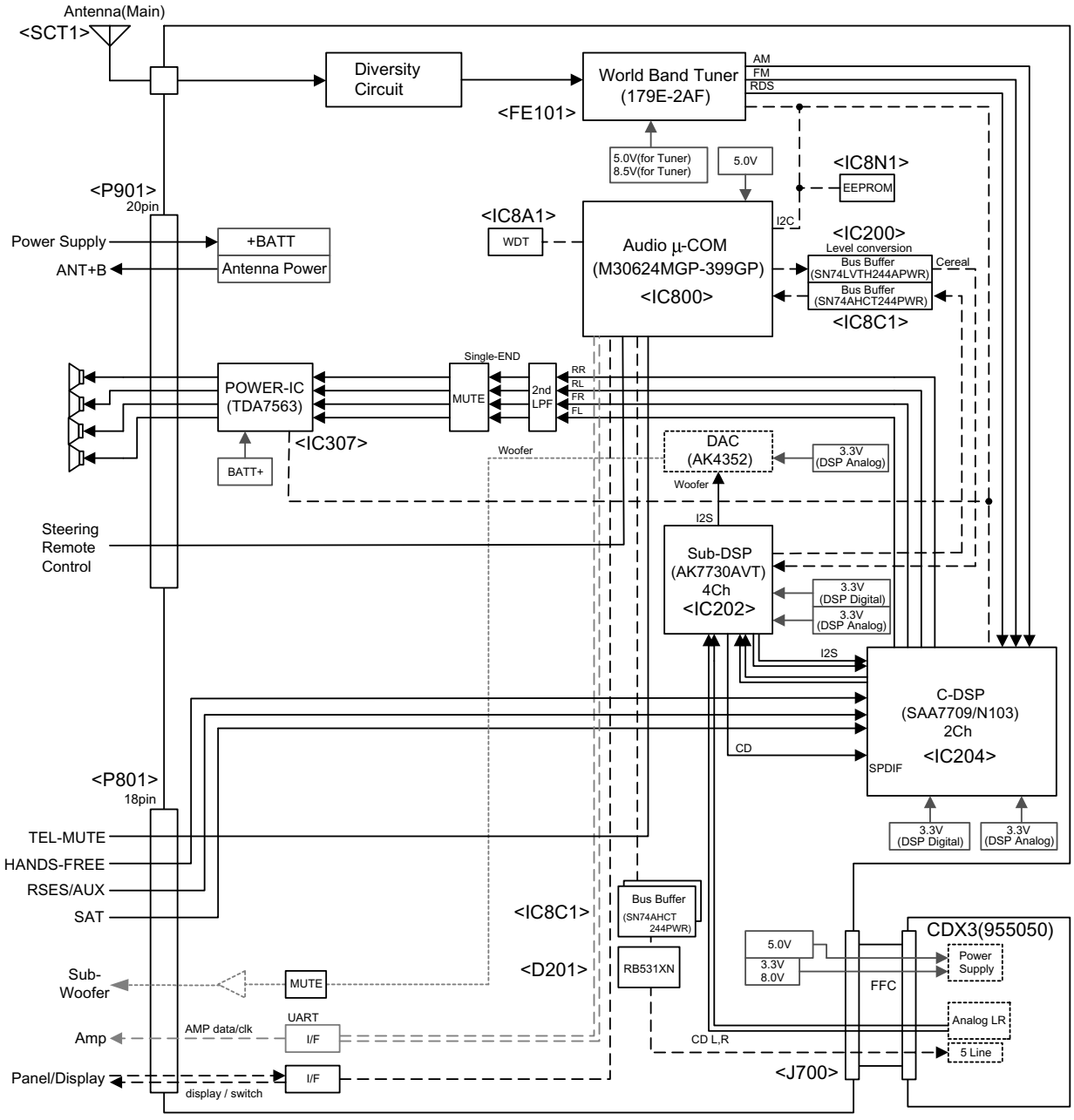
Panel / Amp and AUX Input 18P Connector (P801)

Pin No.	NAME	Pin No.	NAME
1	RADIO DISP DATA	10	SWITCH PANEL GND
2	RADIO SWITCH DATA	11	AMP POWER ON
3	AMP DATA	12	AMP DATA GND
4	OPTION Rch	13	OPTION Lch
5	OPTION GND	14	RSES/AUX GND
6	RSES/AUX Rch	15	RSES/AUX Lch
7	HANDS FREE	16	-
8	HANDS FREE GND	17	TEL MUTE
9	-	18	-

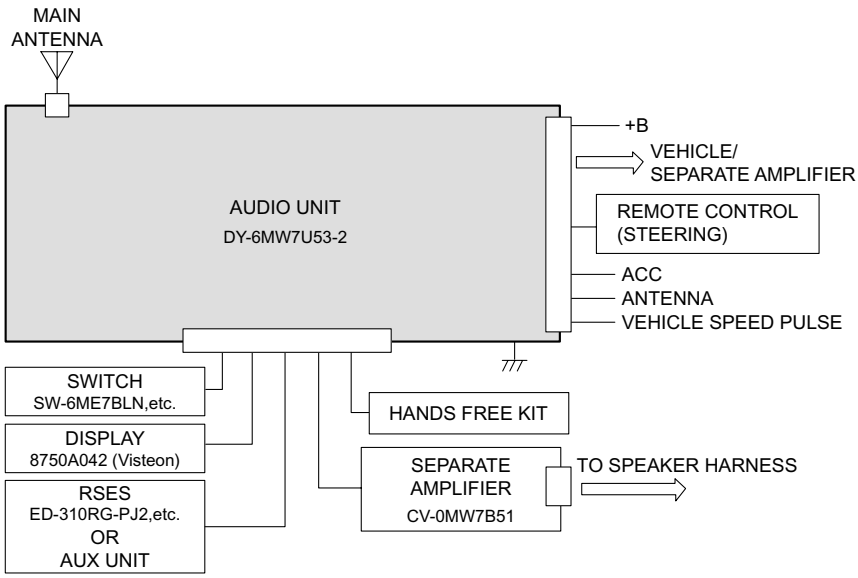
Power Supply, Speaker 20P Connector (P901)

Pin No.	NAME	Pin No.	NAME
1	BATTERY (+)	11	POWER GND
2	-	12	-
3	SPEAKER FL (+)	13	SPEAKER FL (-)
4	SPEAKER RL (+)	14	SPEAKER RL (-)
5	SPEAKER FR (+)	15	SPEAKER FR (-)
6	SPEAKER RR (+)	16	SPEAKER RR (-)
7	SHIELD GND	17	ANTENNA +B
8	-	18	-
9	REMOCON	19	REMOCON GND
10	ACCESSORY (+)	20	SPEED PULSE

BLOCK DIAGRAM



SYSTEM CONFIGURATION



DISASSEMBLING PROCEDURES

1. Removal of COVER (See Fig.1)

1) Unscrew the four screws (①).
2) Remove the COVER.

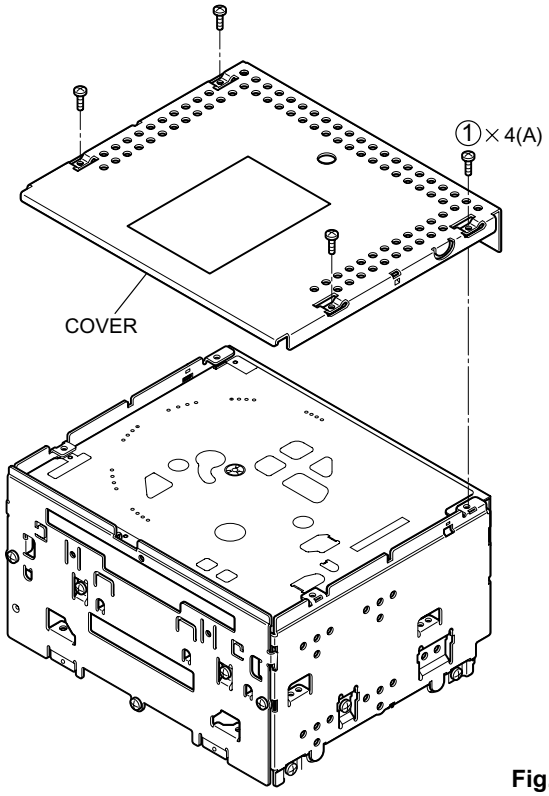


Fig.1

2. Removal of CDX3 (See Fig.2)

1) Unscrew the two screws (②).
2) Remove the CDX3 and FLAT-CABLE 18P.
3) Unscrew the two screws (③).
4) Remove the BRACKET-CDX3.
5) Unscrew the two screws (④).
6) Remove the BRACKET-CASE.

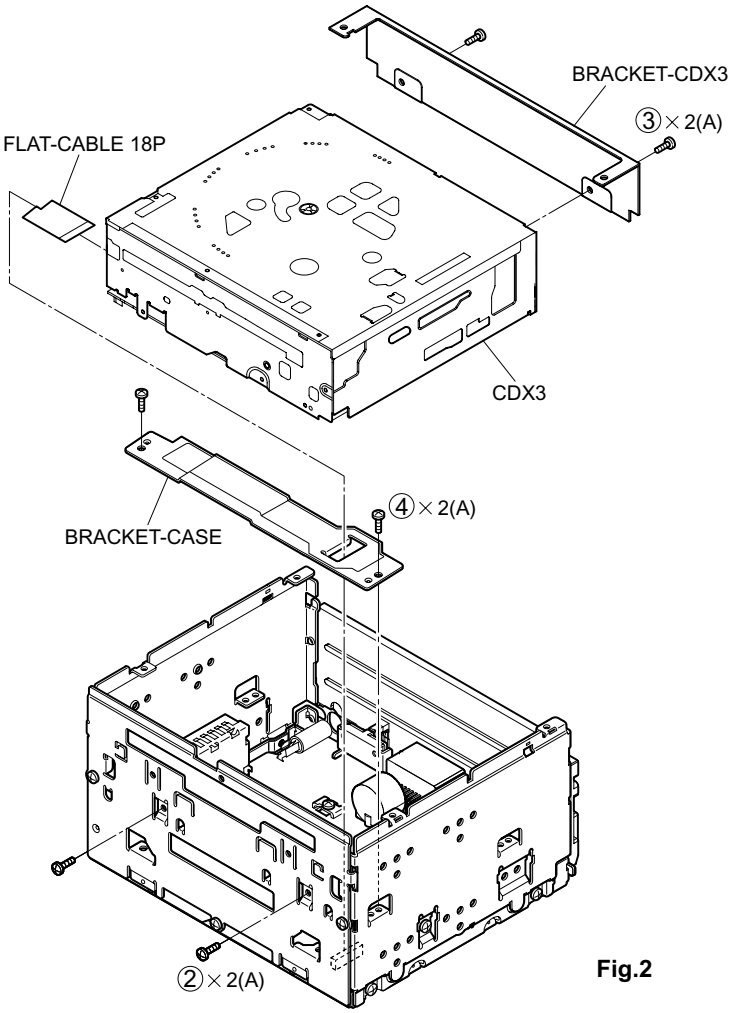


Fig.2

3. Removal of HEAT-SINK (See Fig.3)

1) Unscrew the four screws (⑤).
2) Remove the HEAT-SINK.

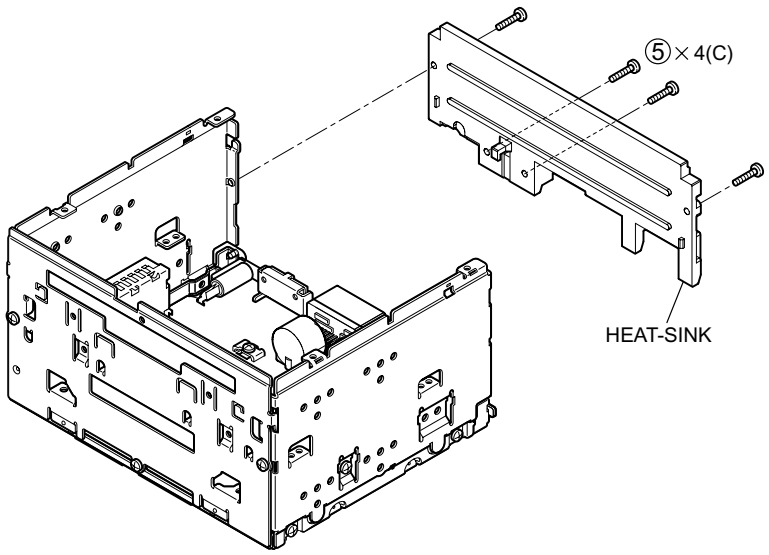


Fig.3

4. Removal of CHASSIS (See Fig.4)

1) Unscrew the three screws (⑥).
2) Remove the CHASSIS-F.
3) Unscrew the two screws (⑦).
4) Remove the CHASSIS-L.
5) Unscrew the two screws (⑧) and three screws (⑨).
6) Remove the CHASSIS-R.

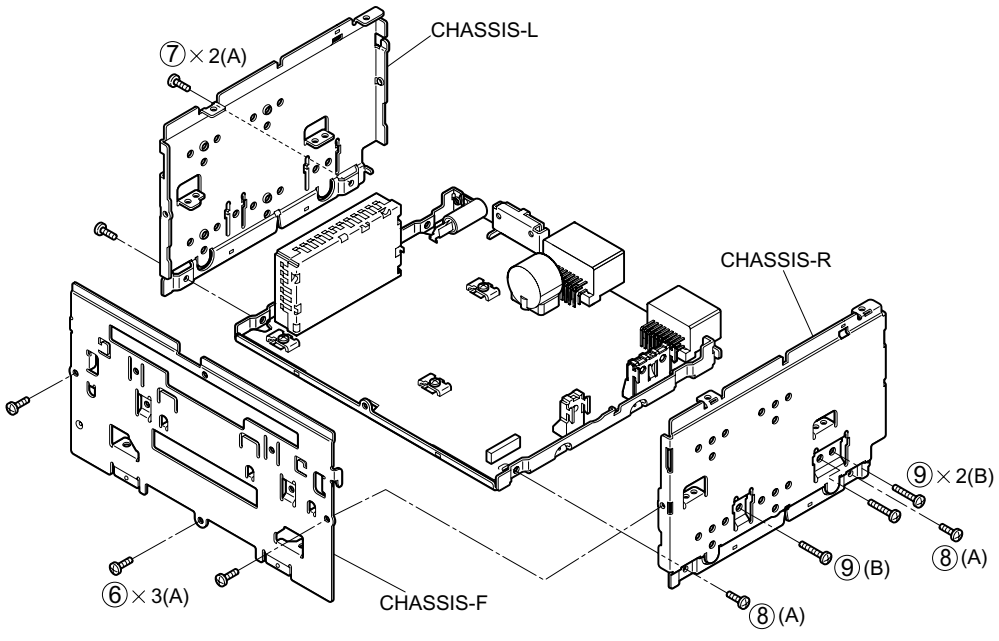


Fig.4

5. Removal of PCB-MAIN (See Fig.5)

1) Unscrew the four screws (⑩).
2) Unlatch the five hooks (a).
3) Remove the PCB-MAIN.

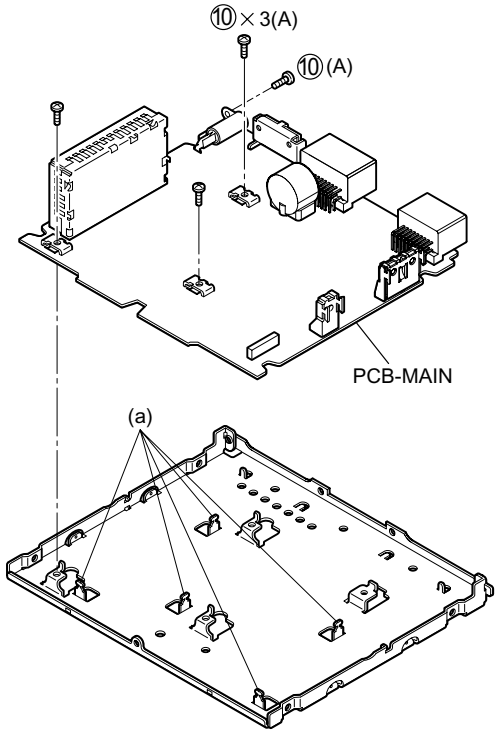
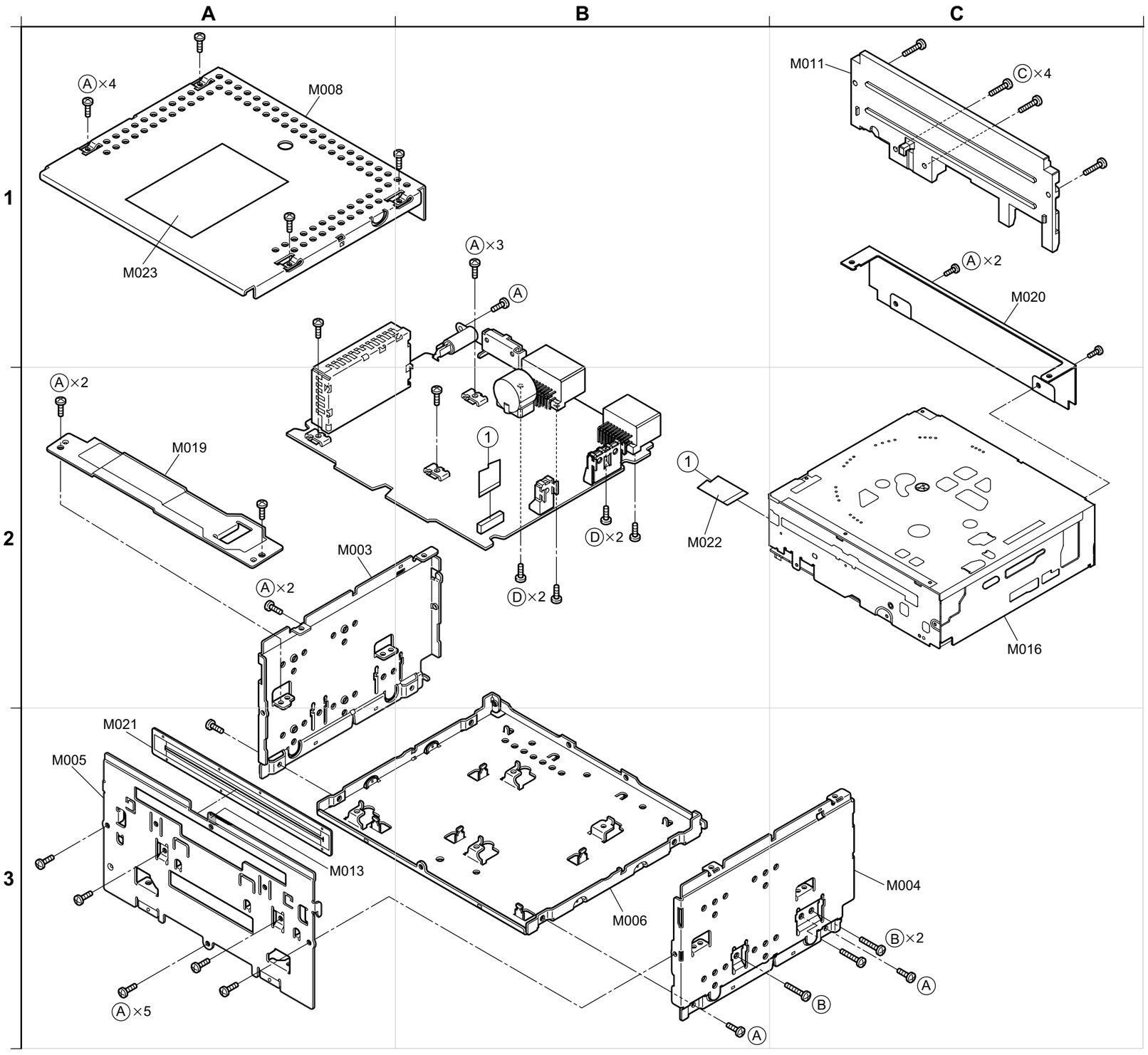


Fig.5

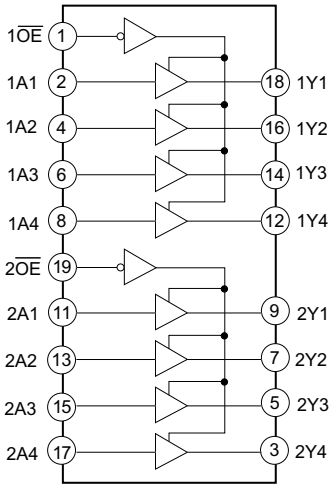
EXPLODED VIEW and PARTS LIST



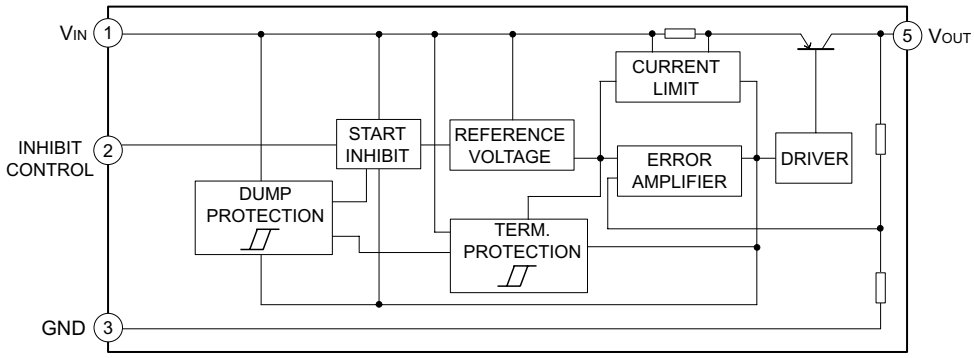
Ref. No.	Part No.	Description	Index
M003	560J24710	CHASSIS-L	A-2
M004	560J24711	CHASSIS-R	C-3
M005	560J35211	CHASSIS-F	A-3
M006	560J24913	CHASSIS-B	B-3
M008	591K38610	COVER	A-1
M011	635J08611	HEAT-SINK	C-1
M013	643L015O3	SHEET	A-3
M016	940L10114	CDX3(955050)	C-2
M019	591K61510	BRACKET-CASE	A-2
M020	593L83310	BRACKET-CDX3	C-1
M021	642K14611	SHEET-CD	A-3
M022	246L229O6	FLAT-CABLE 18P	B-2
M023	943M242O1	NAME-CARD(DY-6MW7U53-2)	A-1
A	653P11046	SCREW-S-PAN 3X6	-
B	653P11048	SCREW-S-PAN 3X10	-
C	653P11049	SCREW-S-PAN 3X12	-
D	669L057O1	SCREW-TAP 3X6	-

IC EXPLANATION

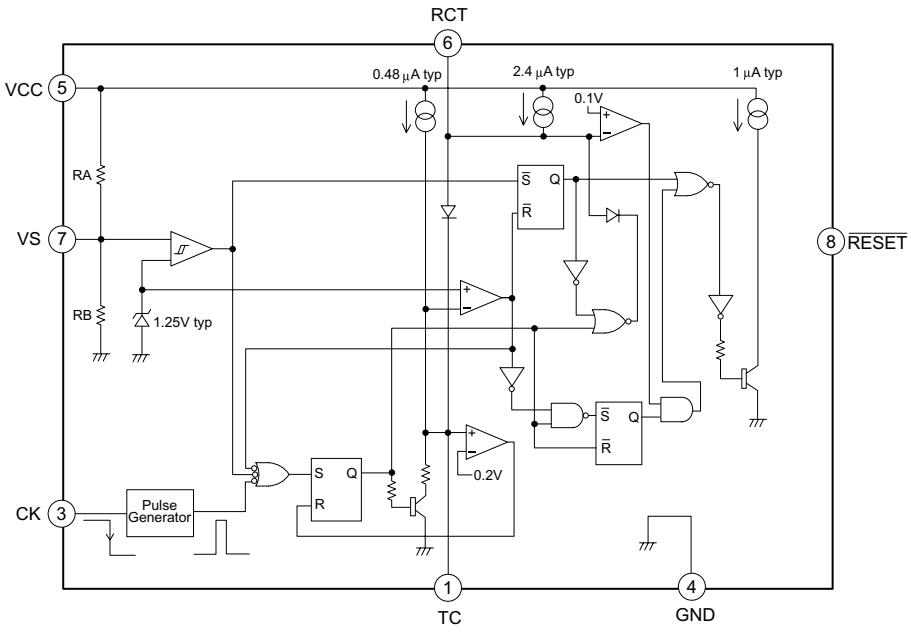
IC200 SN74LVTH244APWR
IC8C1 SN74AHCT244PWR



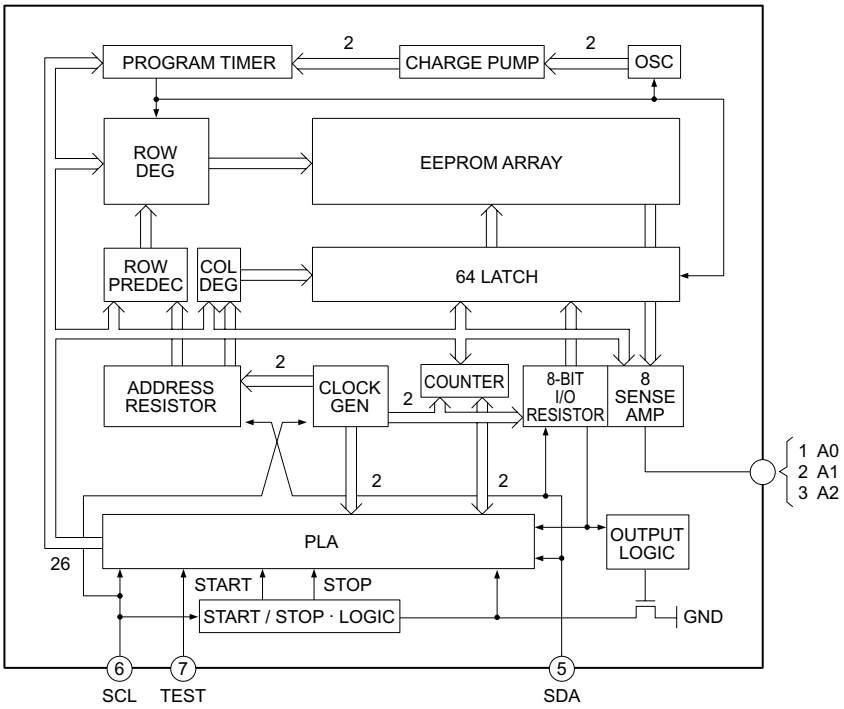
IC961,981 LF33ABPT



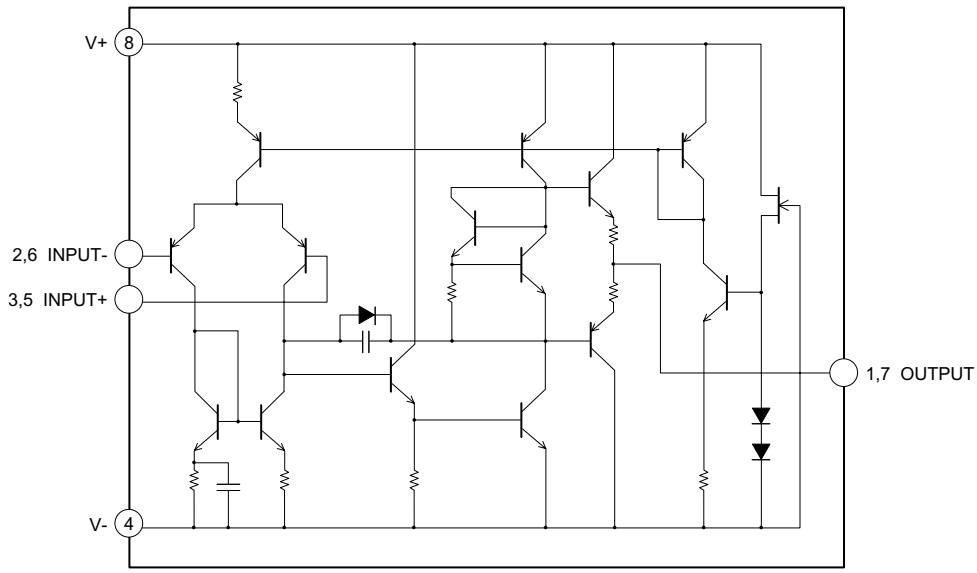
IC8A1 MM1185AFFE



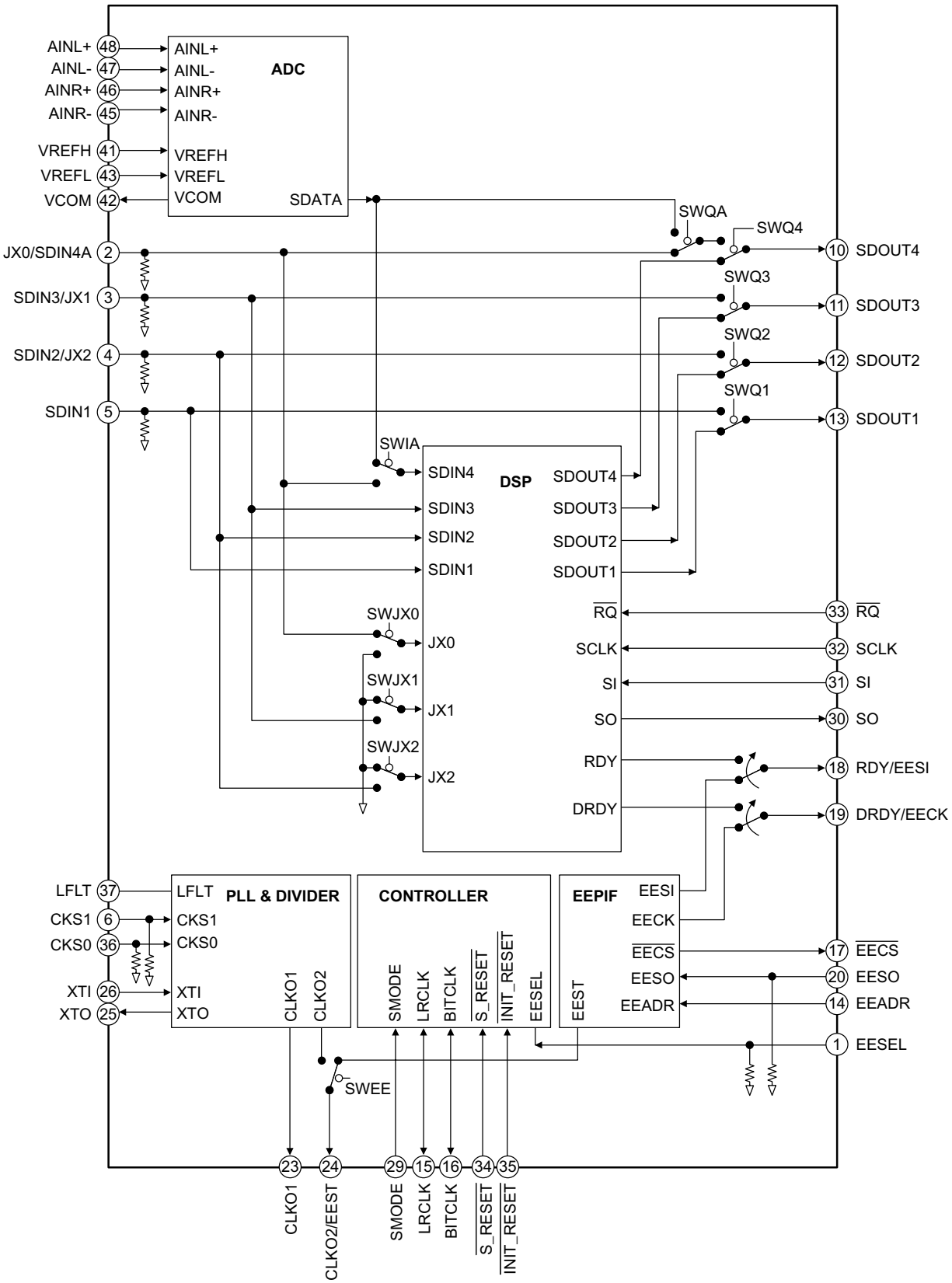
IC8N1 M24C02-WMN6TP



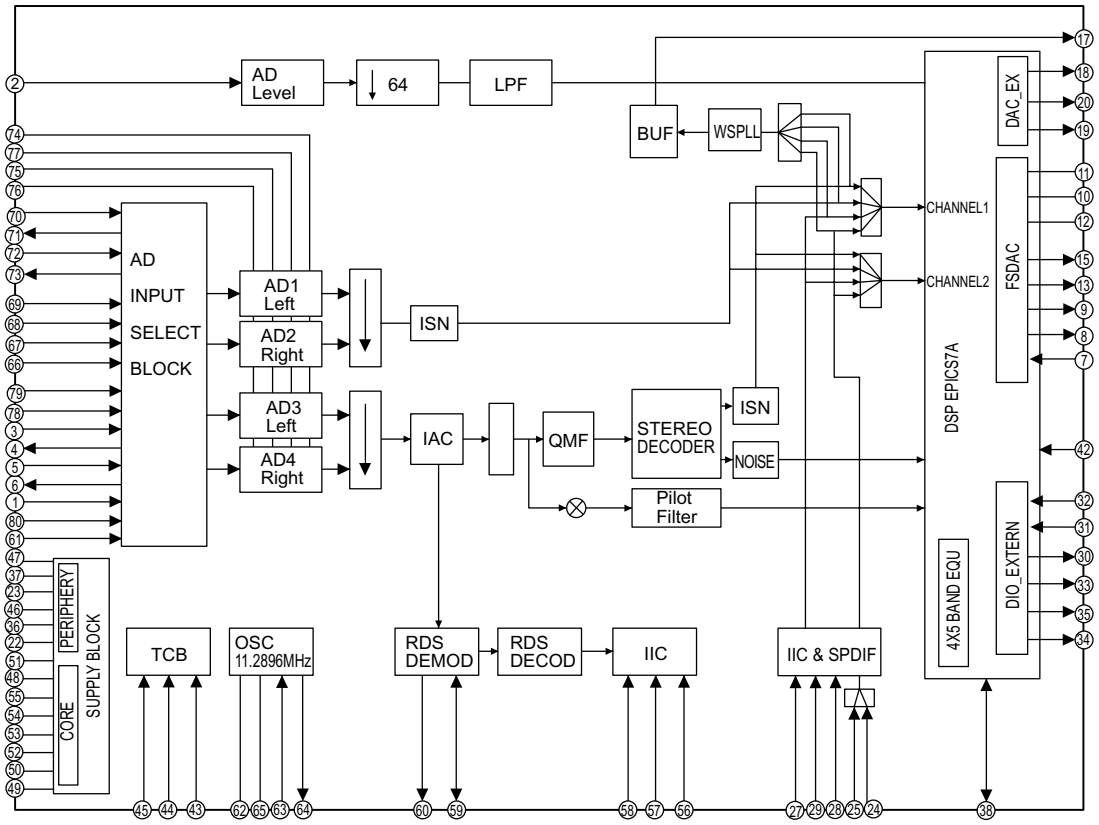
IC21G,305,405 NJM4580V



IC202 AK7730AVT

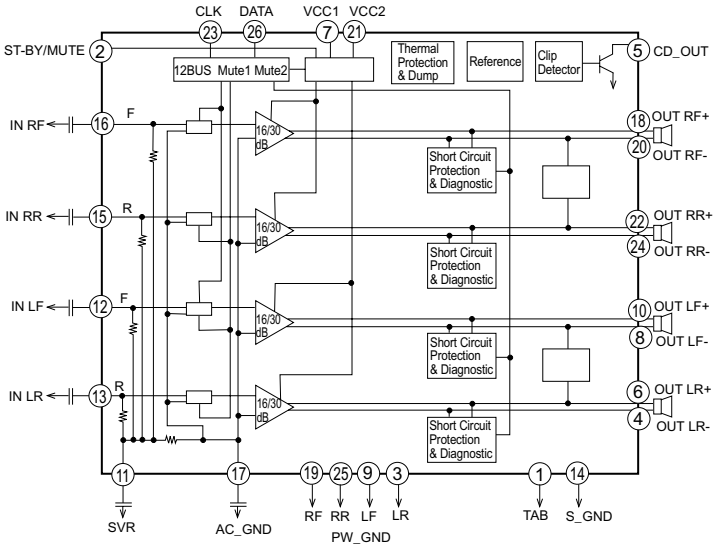


IC204 SAA7709H/N103



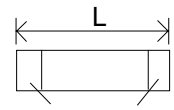
PinNo	Pin Name	PinNo	Pin Name	PinNo	Pin Name	PinNo	Pin Name
1	FM_MPX	21	DSP_IO6	41	PAUSE	61	SEL_FR
2	SM	22	VDDQ1	42	DSP_RESET	62	VSS OSC
3	PHONE	23	VSSQ1	43	RTCB	63	XTAL
4	PHONE_GND	24	SPDIF2	44	SHTCB	64	XTAL
5	NAV	25	SPDIF1	45	TSCAN	65	VDD_OSC
6	NAV_GND	26	DSP_IO5	46	VDDQ3	66	AM_R/AM_MONO
7	POM	27	CD_WS	47	VSSQ3	67	AM_L
8	RRV	28	CD_CLK	48	VDDD1	68	TAPE_R
9	RLV	29	CD_DATA	49	VSSS1	69	TAPE_L
10	VSSDA	30	IIS_CLK	50	VSSS2	70	CD_R
11	VDDDA	31	IIS_IN1	51	VDDD2	71	CD_GNDR
12	VREFDA	32	IIS_IN2	52	VSSS3	72	CD_L
13	FRV	33	IIS_WS	53	VSSS4	73	CD_GMDL
14	DEEMP	34	IIS_OUT1	54	VSSS5	74	VDDAAD
15	FLV	35	IIS_OUT2	55	VSSS6	75	VDACP
16	DSP_IO7	36	VDDQ2	56	A0	76	VDACN
17	FS_SYS	37	VSSQ2	57	SCL	77	VREFAD
18	WS_DAC	38	AF HOLD	58	SDA	78	AUX_R
19	DATA_DAC	39	AF SAMPL	59	RDS_CLOCK	79	AUX_L
20	CLK_DAC	40	DSP_IO3	60	RDS_DATA	80	FM_RDS

IC307 TDA7563



ELECTRICAL PARTS LIST

< CHIP PARTS (RESISTORS & CAPACITORS) >



Part No.	L	Part No.	L
103L19XOX	2.0mm	141L06XOX	2.0mm
103L24XOX	3.2mm	141L16XOX	1.6mm
103L29XOX	1.6mm	141L18XOX	1.6mm
103P50XOX	1.6mm	141P17XOX	3.2mm

Ref. No.	Part No.	Description	
CHIP PARTS (RESISTORS)			
W001,003~006	103L199O9	R-CHIP	0Ω
R3N1,3P1,etc.	103L299O9	R-CHIP	0Ω
R178	103L298O0	R-CHIP	1Ω
R173	103L298O4	R-CHIP	2.2Ω
R222,224,etc.	103L290O9	R-CHIP	47Ω
R242,911,952	103L291O3	R-CHIP	100Ω
R933	103L241O7	R-CHIP	220Ω
R128,254,etc.	103L291O7	R-CHIP	220Ω
R936	103L241O9	R-CHIP	330Ω
R201,8J4	103L292O1	R-CHIP	470Ω
R156	103L292O3	R-CHIP	680Ω
R8G7,8G8,etc.	103L192O5	R-CHIP	1kΩ
R10,171,etc.	103L292O5	R-CHIP	1kΩ
R129,901,etc.	103L292O6	R-CHIP	1.2kΩ
R1A5,912,951	103L292O8	R-CHIP	1.8kΩ
R170,185,etc.	103L292O9	R-CHIP	2.2kΩ
R809,9D1,9D2	103L193O0	R-CHIP	2.7kΩ
R151,176,177	103L293O0	R-CHIP	2.7kΩ
R8J3,8L6,8M3	103L293O1	R-CHIP	3.3kΩ
R820	103P503O1	R-CHIP	3.3kΩ
R157,8B2	103L293O2	R-CHIP	3.9kΩ
R112,155,etc.	103L293O3	R-CHIP	4.7kΩ
R229,361,etc.	103L293O4	R-CHIP	5.6kΩ
R321,333,etc.	103L293O5	R-CHIP	6.8kΩ
R302,402	103L293O6	R-CHIP	8.2kΩ
R108,154,etc.	103L293O7	R-CHIP	10kΩ
R132,301,etc.	103L293O9	R-CHIP	15kΩ
R352,452,etc.	103L294O0	R-CHIP	18kΩ
R808	103L194O1	R-CHIP	22kΩ
R160,807,etc.	103L294O1	R-CHIP	22kΩ
R12,833	103L294O3	R-CHIP	33kΩ
R351,353,etc.	103L294O4	R-CHIP	39kΩ
R824	103P504O4	R-CHIP	39kΩ
R06G,10G,etc.	103L294O5	R-CHIP	47kΩ
R133	103L294O6	R-CHIP	56kΩ
R823	103P504O7	R-CHIP	68kΩ
R12G,131,etc.	103L294O9	R-CHIP	100kΩ
R821,822,825	103P504O9	R-CHIP	100kΩ
R152,811	103L295O3	R-CHIP	220kΩ
R8B5,8B6	103L295O7	R-CHIP	470kΩ
R101,103,172	103L296O1	R-CHIP	1MΩ
RN202,8C1	109L034O6	R-NETWORK-CHIP	470Ω
RN201,241	109P01218	R-NETWORK-CHIP	1kΩ
CHIP PARTS (CAPASITORS)			
C1	141L181O5	C-CERAMIC-CHIP	15pF
C256,257	141L181O9	C-CERAMIC-CHIP	22pF
C801,802	141L182O1	C-CERAMIC-CHIP	27pF
C12G,254,etc.	141L183O5	C-CERAMIC-CHIP	100pF
C1A1,1A3	141L183O9	C-CERAMIC-CHIP	150pF
C10G,11,etc.	141L160O1	C-CERAMIC-CHIP	220pF
C352,452,etc.	141L184O9	C-CERAMIC-CHIP	390pF
C170,171	141L160O5	C-CERAMIC-CHIP	470pF
C101,3A2,etc.	141L160O9	C-CERAMIC-CHIP	1000pF
C932	141L161O3	C-CERAMIC-CHIP	2200pF
C3N1,3P1,etc.	141L161O5	C-CERAMIC-CHIP	3300pF
C962	141L161O8	C-CERAMIC-CHIP	5600pF
C227	141L161O9	C-CERAMIC-CHIP	6800pF
C115,154,etc.	141L162O1	C-CERAMIC-CHIP	0.01μF
C954,982	141L162O3	C-CERAMIC-CHIP	0.015μF
C10	141L163O3	C-CERAMIC-CHIP	0.022μF
C151~153,33G	141L164O4	C-CERAMIC-CHIP	0.047μF
C201,221,etc.	141L164O6	C-CERAMIC-CHIP	0.1μF
C225,226	141L164O8	C-CERAMIC-CHIP	0.22μF
C3B2	141L069O5	C-CERAMIC-CHIP	1μF
C1A2,1A4	141L165O0	C-CERAMIC-CHIP	1μF
C11G,311,etc.	141P170O2	C-CERAMIC-CHIP	1μF
TRANSISTORS			
Q901,931,etc.	260P68210	TR 2SD2375OP	
Q131,154,etc.	260M061O7	TR-CHIP 2SA1037Q	
Q8G3,8H1,9D1	260P11710	TR-CHIP 2SA1364	
Q101,151,etc.	260M061O5	TR-CHIP 2SC2412S	
Q911	260L049O2	TR-CHIP 2SC3439	
Q106,8L7,etc.	260M061O1	TR-CHIP DTA124E	
Q932,9B2	260L030O5	TR-CHIP DTA143E	
Q3A2	260L042O2	TR-CHIP DTA144T	
Q241,242,etc.	260M061O9	TR-CHIP DTC114E	
Q802	260L014O7	TR-CHIP DTC115E	
Q3A1,8L1,etc.	260M061O2	TR-CHIP DTC124E	
Q108,8H3,etc.	260M061O8	TR-CHIP DTC144E	
Q361,461,etc.	260L033O1	TR-CHIP DTC323T	
DIODES			
D901,931,etc.	264P607O2	DIODE-CHIP 1SR154	
D151,152,etc.	264L060O1	DIODE-CHIP 1SS355	

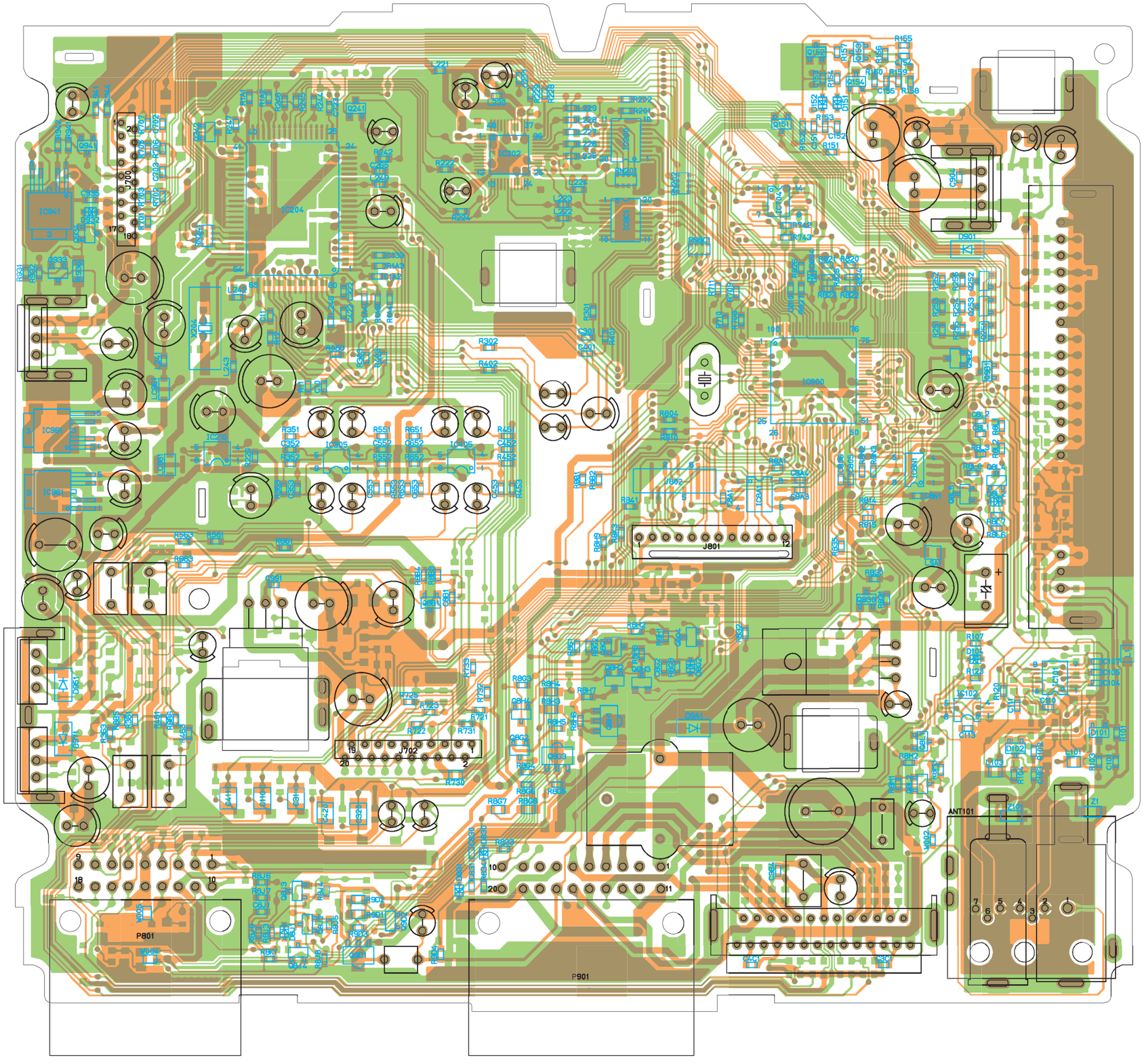
Ref. No.	Part No.	Description
D101	264L062O1	DIODE-CHIP 1SV234
D9M1	264P516O1	DIODE-CHIP S3D6600
D8L3	264P582O7	DIODE-Z-CHIP MA8043H
D932	264L067O3	DIODE-Z-CHIP MA8051M
D911,9A2	264L067O4	DIODE-Z-CHIP MA8056M
D952	264P583O8	DIODE-Z-CHIP MA8062M
D802	264P584O1	DIODE-Z-CHIP MA8068M
D801	264P584O8	DIODE-Z-CHIP MA8082H
D972	264P584O6	DIODE-Z-CHIP MA8082L
D902	264P585O0	DIODE-Z-CHIP MA8091M
D10G,310,etc.	264P588O6	DIODE-Z-CHIP MA8270M
IC		
IC202	262P52111	IC AK7730AVT
IC961,981	266P61410	IC LF33ABPT
IC8N1	263L140O6	IC M24C02-WMN6TP
IC800	262P57492	IC M30624MGP-399GP
IC8A1	263P02511	IC MM1185AFFE
IC21G,305,405	266L065O6	IC NJM4580V
IC204	263P25010	IC SAA7709H/N103
IC8C1	263L060O9	IC SN74AHCT244PWR
IC200	263P01710	IC SN74LVTH244APWR
IC307	266P59510	IC TDA7563

Ref. No.	Part No.	Description
COILS		
L9M1	351P11610	COIL-CHOKE
L1	351P032O1	COIL-CHOKE-CHIP
L101,9A1	351P081O6	COIL-CHOKE-CHIP
L221~231,etc.	351P095O4	COIL-CHOKE-CHIP
CONNECTORS		
J700	452L258O4	CONNECTOR 18P
P801	452P23218	CONNECTOR 18P
P901	452P23220	CONNECTOR 20P
SCT1	449L076O3	SOCKET-ANT
OTHERS		
RT131	265P10910	THERMISTOR-CHIP
X801	285L012O7	CRYSTAL
X204	285P101O3	CRYSTAL
FE101	295P21418	TUNER
F9D1	299P128O3	PROTECTOR
Z1	299P136O2	PROTECTOR-CHIP
LC961,981	409P023O2	LC-MULTIPLE-CHIP
PLT-101,802,908	593L109O1	PLATE-G
HLD-30S	593L28610	HOLDER-TR
HLD-207	593L29210	HOLDER-TR
HLD-100	593L29213	HOLDER-TR
HLD-00S	593L58511	HOLDER-IC

PARTS LAYOUT ON PRINTED CIRCUIT BOARD

MODEL : DY-6MW7U53-2 (PARTS SIDE)

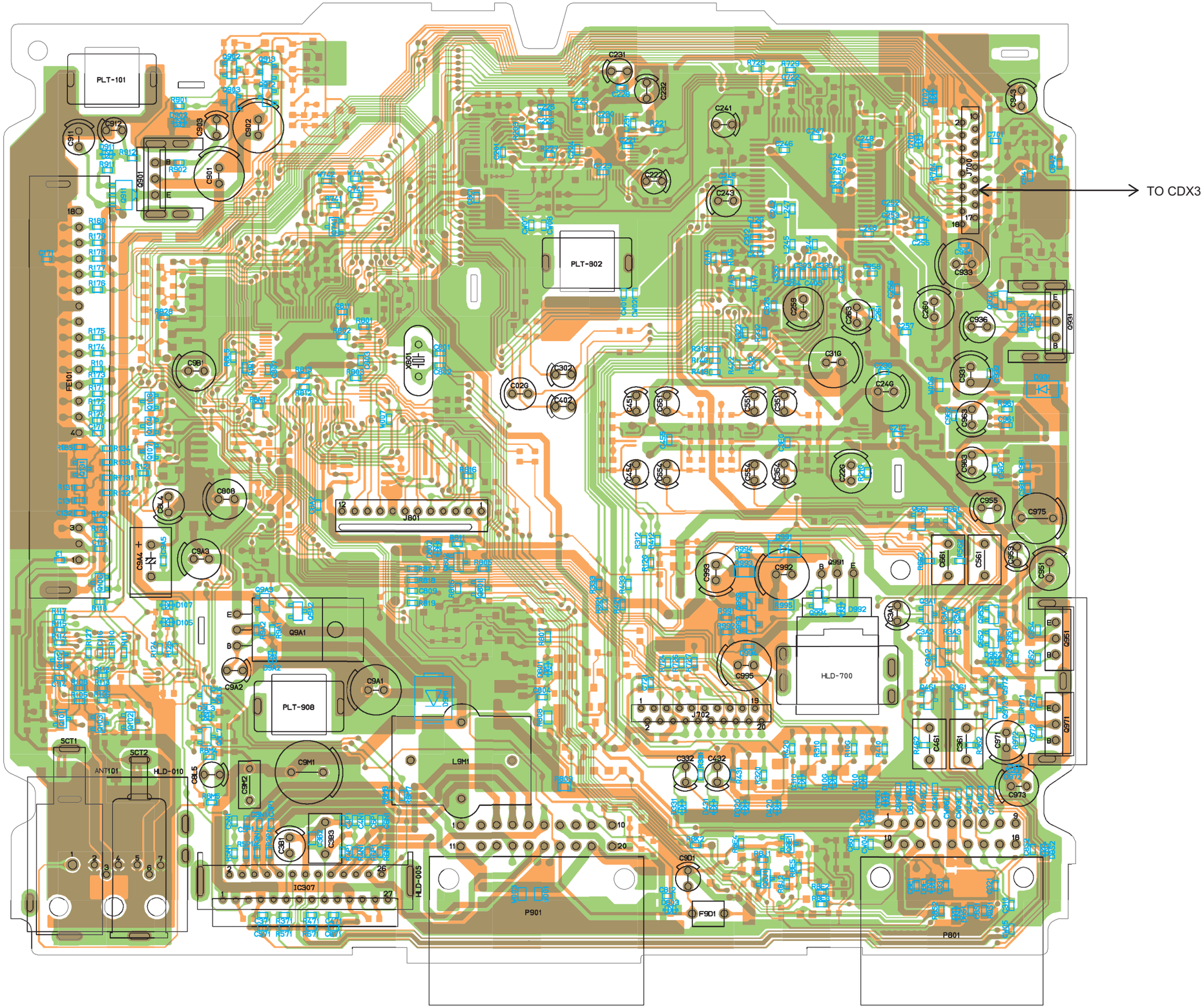
PCB-MAIN



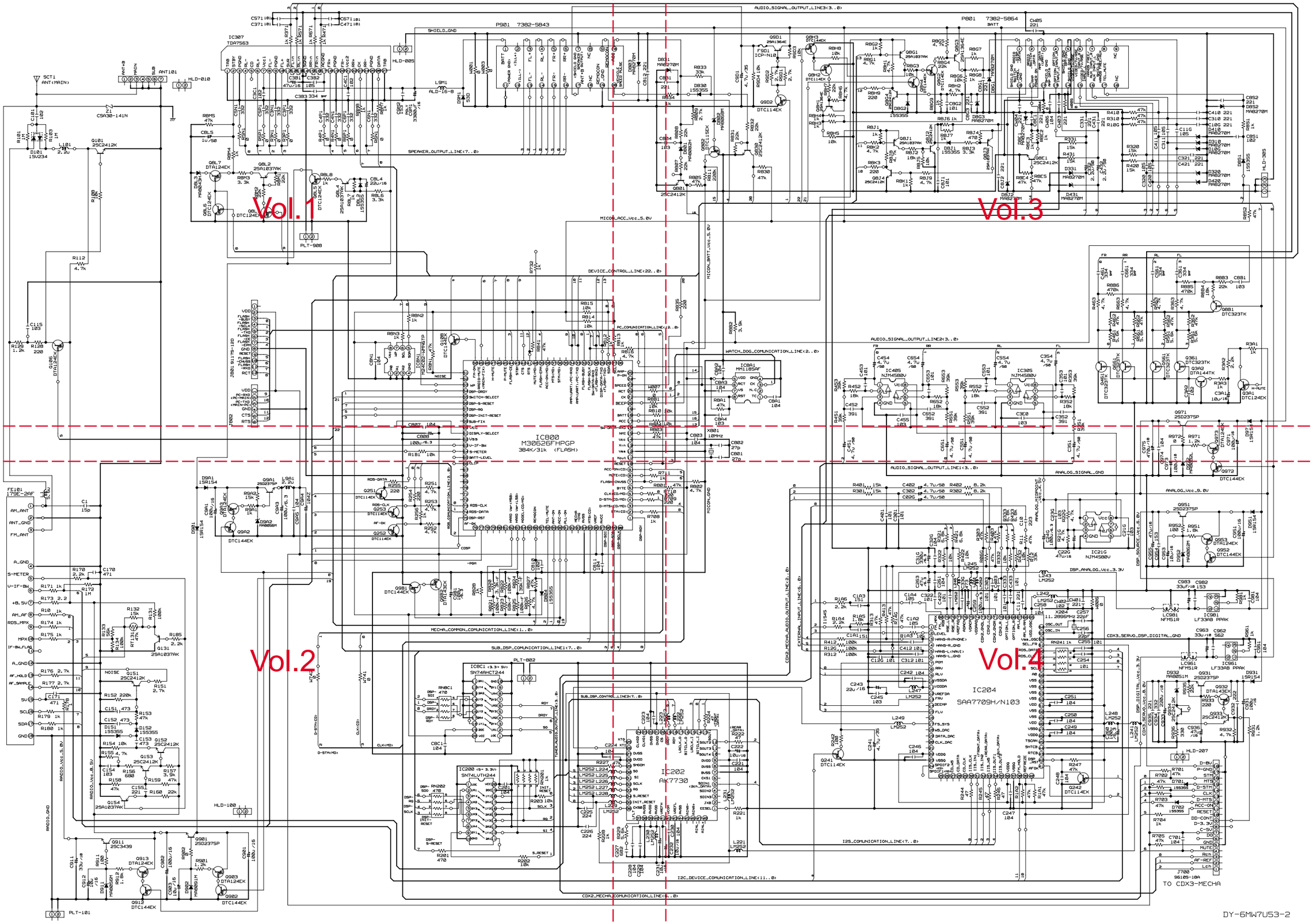
PARTS LAYOUT ON PRINTED CIRCUIT BOARD

MODEL : DY-6MW7U53-2 (PATTERN SIDE)

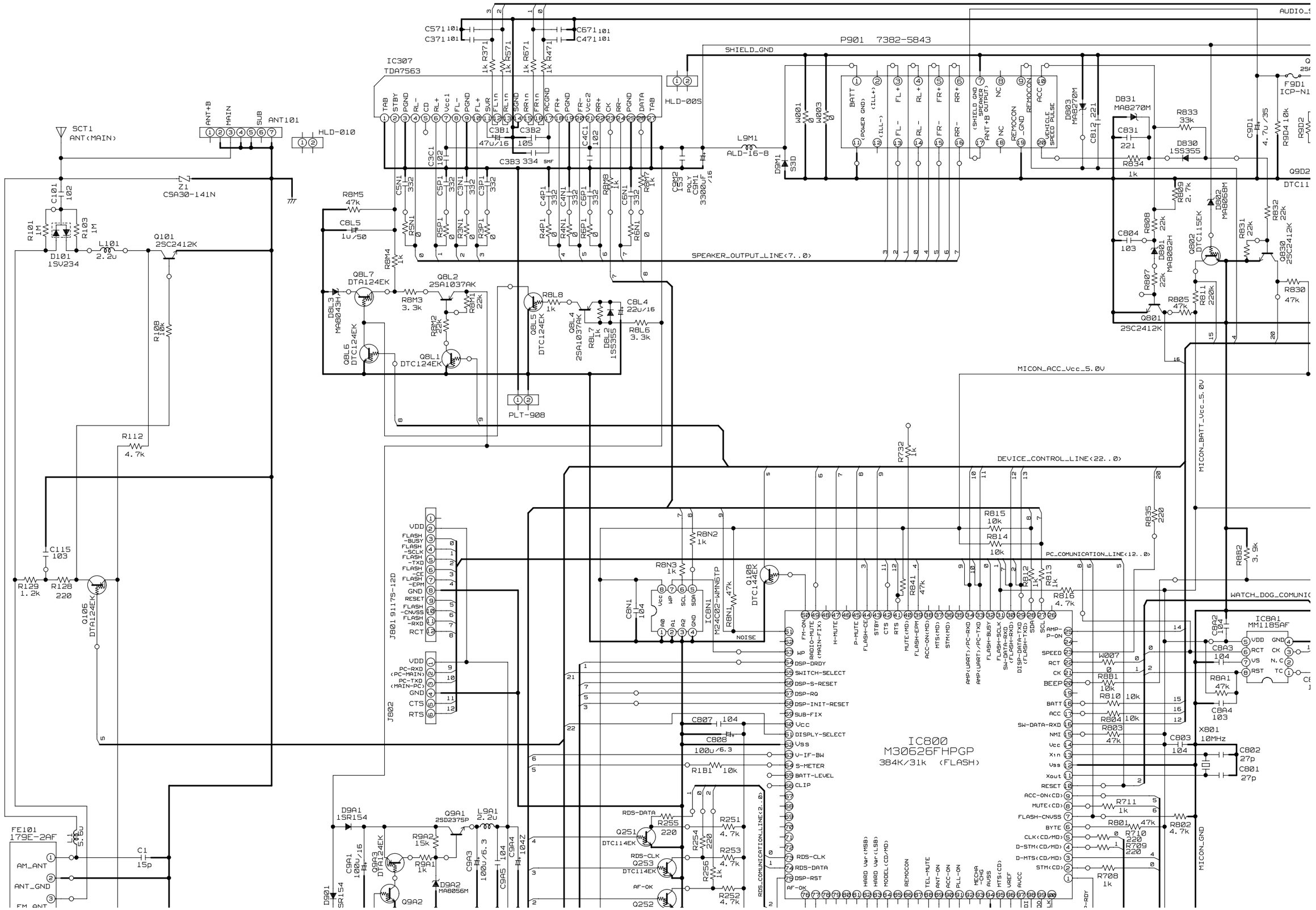
PCB-MAIN



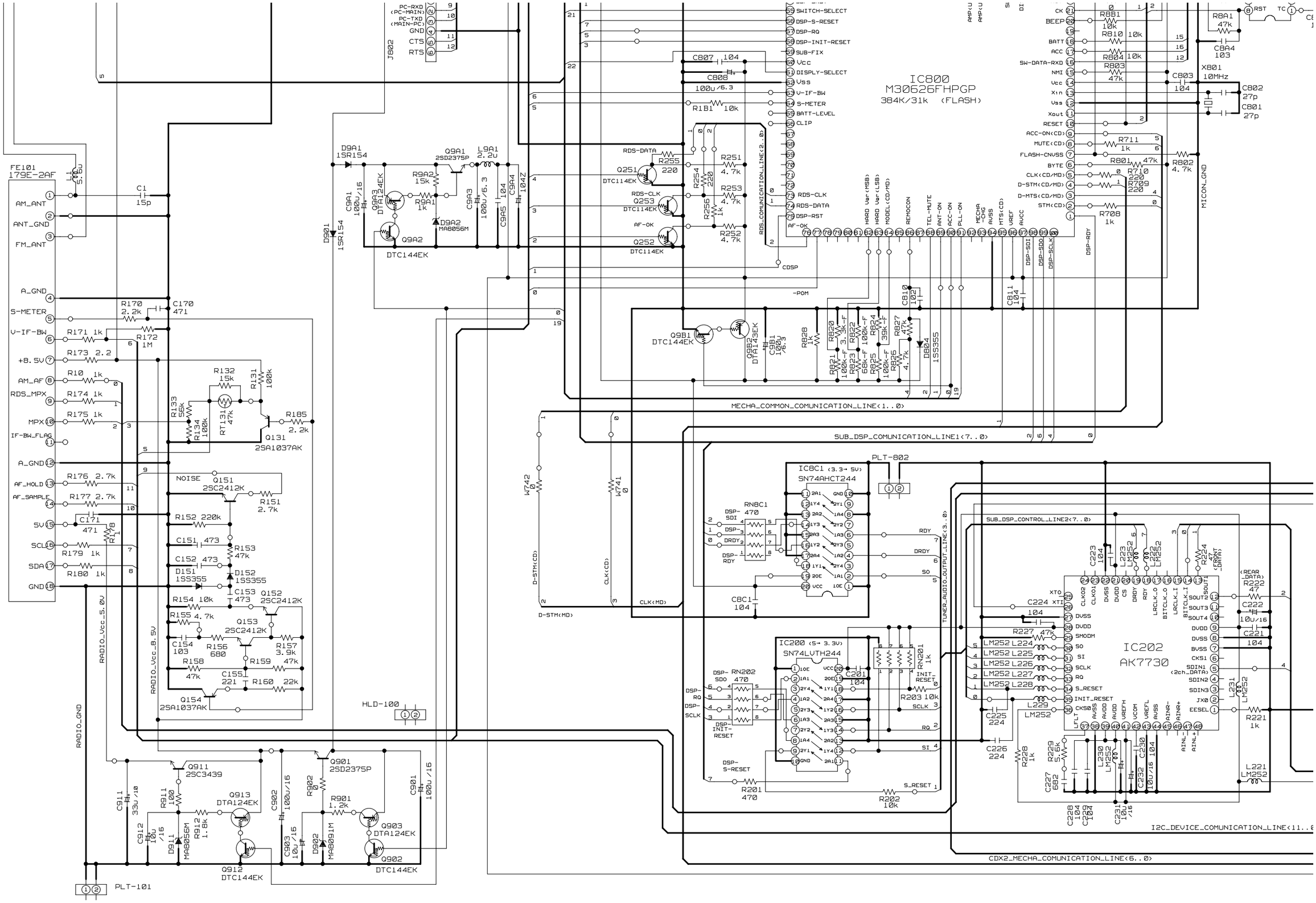
SCHEMATIC DIAGRAM PCB-MAIN MODEL : DY-6MW7U53-2



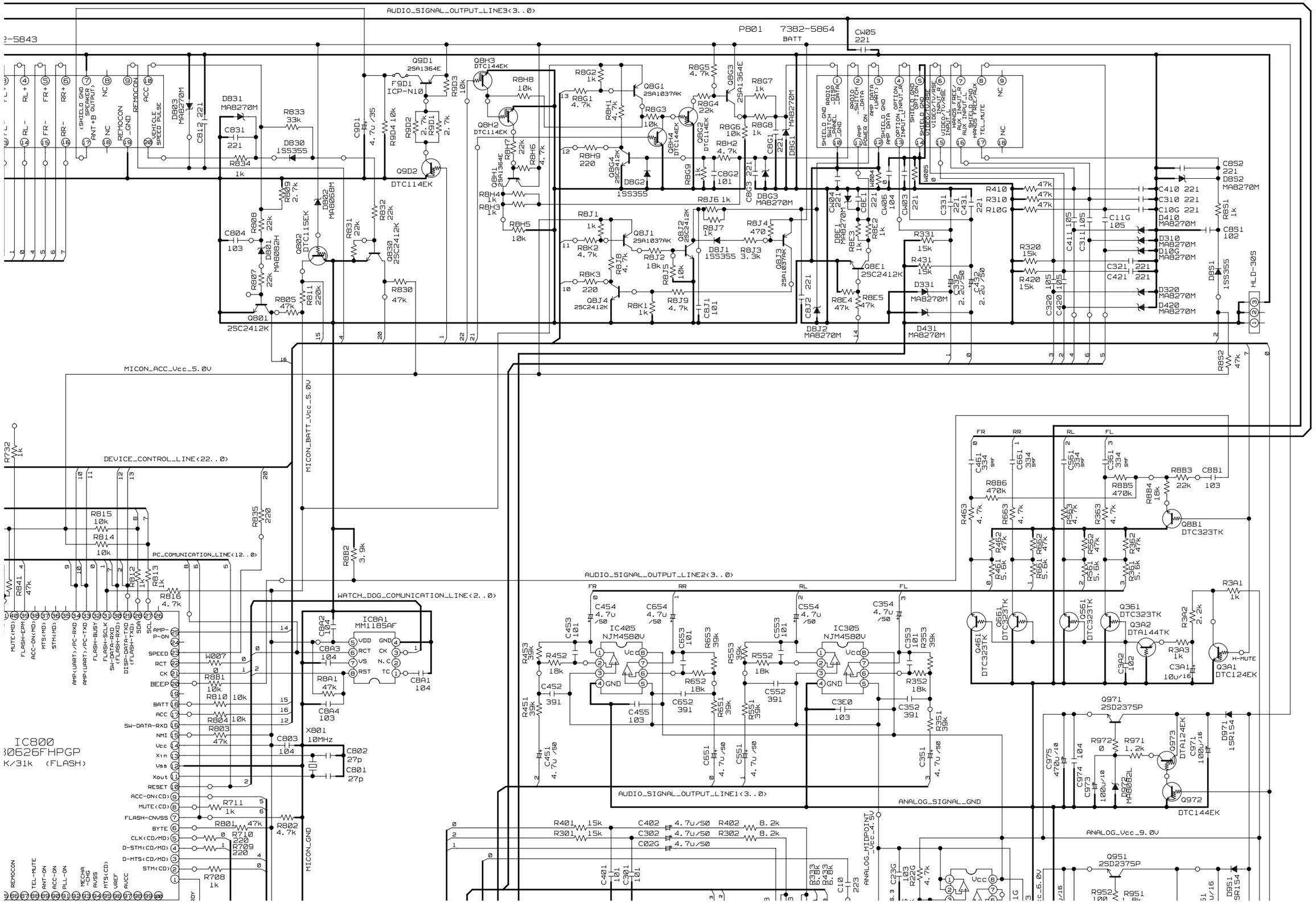
SCHEMATIC DIAGRAM PCB-MAIN MODEL : DY-6MW7U53-2 Vol.1



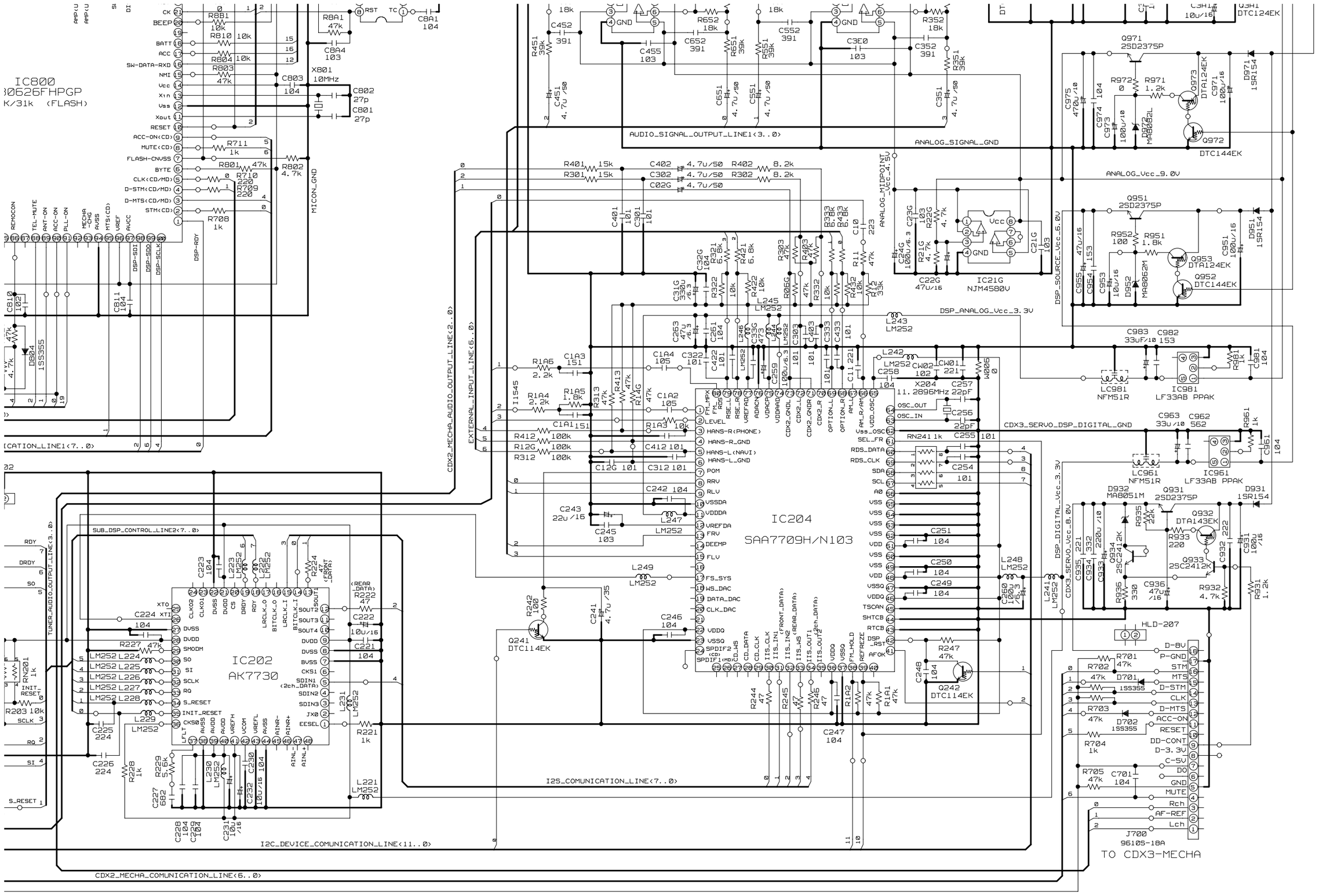
SCHEMATIC DIAGRAM PCB-MAIN MODEL : DY-6MW7U53-2 Vol.2



SCHEMATIC DIAGRAM PCB-MAIN MODEL : DY-6MW7U53-2 Vol.3



SCHEMATIC DIAGRAM PCB-MAIN MODEL : DY-6MW7U53-2 Vol.4



DY-6MW7U53-2

VOLTAGE
MODEL : DY-6MW7U53-2

(Pin numbers are as measurement points.)

1. Audio μ-COM
IC800 PCB-MAIN

Pin No.	Pin Name	Function	I/O	ACT	Voltage [V]		
					FM	AM	CD
1	DSP-RDY	SUB DSP RDY input	I	-	0/5	0/5	0/5
2	STM(CD)	Communication request from CDX3	I	H	-	-	0/5
3	D-MTS(CD)	Cereal data communication output to mecha	O	-	-	-	0/5
4	D-STM(CD)	Cereal data communication input from mecha	I	-	-	-	0/5
5	CLK(CD)	Cereal clock communication input from mecha	I	-	-	-	0/5
6	BYTE		I	-	-	-	-
7	FLASH-CNVSS	For flash writing	I	-	-	-	-
8	MUTE(CD)	Mute request from CDX3	I	L	-	-	0/5
9	ACC-ON(CD)	ACC-ON output to CDX3	O	H	-	-	0/5
10	RESET		I	-	-	-	-
11	Xout		O	-	-	-	-
12	VSS		-	-	-	-	-
13	Xin		I	-	-	-	-
14	VCC		-	-	-	-	-
15	NMI		I	-	-	-	-
16	SW-DATA-RXD	PANEL UART communication data input	I	-	0/5	0/5	0/5
17	ACC	ACC detection	I	L	0/5	0/5	0/5
18	BATT	BATT detection	I	L	0/5	0/5	0/5
19	-	Not Used	-	-	-	-	-
20	BEEP	BEEP sound output	O	-	0/5	0/5	0/5
21	CK	Clear pulse output for watch dog	O	-	0/5	0/5	0/5
22	RCT	ENABLE request for watch dog	I	-	-	-	-
23	SPEED	SPEED pulse input	I	-	0/5	0/5	0/5
24	-	Not Used	-	-	-	-	-
25	AMP-P-ON	External AMP POWER ON request	O	L	0/5	0/5	0/5
26	-	Not Used	-	-	-	-	-
27	SCL	I2C clock output	O	-	0/5	0/5	0/5
28	SDA	I2C data output	O	-	0/5	0/5	0/5
29	DISP-DATA-TXD (FLASH-TXD)	PANEL UART communication data output /For flash writing	O	-	0/5	0/5	0/5
30	SW-DATA-RXD (FLASH-RXD)	PANEL UART communication data input /For flash writing	I	-	0/5	0/5	0/5
31	FLASH-SCLK	For flash writing	O	-	0/5	0/5	0/5
32	FLASH-BUSY	For flash writing	O	-	0/5	0/5	0/5
33	AMP/RSES(UART) PC-TXD	AMP/RSES UART communication data output/ for PC communication	O	-	0/5	0/5	0/5
34	AMP/RSES(UART) PC-RXD	AMP/RSES UART communication data input/ for PC communication	I	-	0/5	0/5	0/5
35	-	Not Used	-	-	-	-	-
36	-	Not Used	-	-	-	-	-
37	-	Not Used	-	-	-	-	-
38	-	Not Used	-	-	-	-	-
39	FLASH-EPM	For flash writing	I	-	0/5	0/5	0/5
40	-	Not Used	-	-	-	-	-
41	RTS	doe PC communication	I	-	0/5	0/5	0/5
42	CTS	doe PC communication	O	-	0/5	0/5	0/5
43	STBY	STBY request for POWER IC	O	H	0/5	0/5	0/5
44	FLASH-CE	For flash writing	I	-	0/5	0/5	0/5
45	P-MUTE	MUTE request for POWER IC	O	H	0/5	0/5	0/5
46	-	Not Used	-	-	-	-	-
47	H-MUTE	MUTE request to mute circuit	O	H	0/5	0/5	0/5
48	-	Not Used	-	-	-	-	-
49	-	Not Used	-	-	-	-	-
50	FM-ON	Power supply SW to diversity circuit	O	H	0/5	-	-
51	NOISE	Noise detection	I	-	0/5	-	-
52	-	Not Used	-	-	-	-	-
53	WP		O	-	0/5	0/5	0/5
54	DSP-DRDY	SUB DSP DRDY input	I	-	0/5	0/5	0/5
55	SWITCH-SELECT	Switch communication select	O	-	0/5	0/5	0/5
56	DSP-S-RESET	SUB DSP SYSTEM RESET request	O	L	0/5	0/5	0/5
57	DSP-RQ	SUB DSP RQ request	O	-	0/5	0/5	0/5
58	DSP-INIT-RESET	SUB DSP INITIAL RESET request	O	L	0/5	0/5	0/5
59	-	Not Used	-	-	-	-	-
60	VCC		-	-	-	-	-
61	DISPLAY-SELECT	Display communication select	O	-	0/5	0/5	0/5
62	VSS		-	-	-	-	-
63	V-IF-BW	Input for changeable IF monitor	I	-	0→5	-	-
64	S-METER	S meter input	I	-	0→5	0→5	-
65	-	Not Used	-	-	-	-	-
66	-	Not Used	-	-	-	-	-
67	-	Not Used	-	-	-	-	-
68	-	Not Used	-	-	-	-	-
69	-	Not Used	-	-	-	-	-
70	-	Not Used	-	-	-	-	-
71	-	Not Used	-	-	-	-	-
72	-	Not Used	-	-	-	-	-
73	RDS-CLK	Clock input from RDS decoder	I	-	0/5	0/5	0/5
74	RDS-DATA	Data input from RDS decoder	I	-	0/5	0/5	0/5
75	DSP-RST	RESET request to CDS	O	-	0/5	0/5	0/5
76	AF-OK	AF change request from RDS decoder	I	-	0/5	0/5	0/5
77	CDSP-PON	Power supply ONSW to CDSP	O	H	0/5	0/5	0/5
78	-	Not Used	-	-	-	-	-
79	-	Not Used	-	-	-	-	-
80	-	Not Used	-	-	-	-	-
81	-	Not Used	-	-	-	-	-
82	HARD Ver(MSB)	Hardware version(MSB)	I	-	0→5	0→5	0→5
83	HARD Ver(LSB)	Hardware version(LSB)	I	-	0→5	0→5	0→5
84	MODEL(CD/MD)	Audio model setting	I	-	0→5	0→5	0→5
85	-	Not Used	-	-	-	-	-
86	REMOCON	Steering remote control AD input	I	-	0→5	0→5	0→5
87	-	Not Used	-	-	-	-	-
88	TEL-MUTE	TEL MUTE input	I	L	0/5	0/5	0/5
89	ANT-ON	ANT+B power supply SW	O	H	0/5	0/5	0/5
90	ACC-ON	SW for internal power supply	O	H	0/5	0/5	0/5
91	PLL-ON	SW for power supply for tuner	O	H	0/5	0/5	0/5
92	-	Not Used	-	-	-	-	-
93	-	Not Used	-	-	-	-	-
94	AVSS		-	-	-	-	-
95	MTS(CD)	Communication request to CDX3	O	L	-	-	0/5
96	VREF		-	-	-	-	-
97	AVCC		-	-	-	-	-
98	DSP-SDI	SUB DSP data input	I	-	0/5	0/5	0/5
99	DSP-SDO	SUB DSP data output	O	-	0/5	0/5	0/5
100	DSP-SCLK	Clock output for SUB DSP	I	-	0/5	0/5	0/5

2. CDSP
IC204 PCB-MAIN

FM 98.1MHz,30.0%MOD,VOL MIN
BATT,ACC 13.2V

Pin No.	Pin Name	Voltage [V]
1	FM-MPX	1.6
2	LEVEL	2.1
3	HANS-R	1.6
4	HANS-R(GND)	1.6
5	HANS-L	1.6
6	HANS-L(GND)	1.6
7	POM	3.3
8	RRV	1.6
9	RLV	1.6
10	VSSDA	0.0
11	VDDDA	3.3
12	VREFDA	1.7
13	FRV	1.6
14	DEEMP	-
15	FLV	1.6
16	-	-
17	FS-SYS	0.0/3.3
18	WS-DAC	-
19	DATA-DAC	-
20	CLK-DAC	-
21	-	-
22	VDDQ	3.3
23	VSSQ	0.0
24	SPDIF2	1.7
25	SPDIF2	1.7
26	-	-
27	CD-WS	-
28	CD-DATA	-
29	CD-CLK	-
30	IIS-CLK	0.0/3.3
31	IIS-IN1	0.0
32	IIS-IN2	0.0
33	IIS-WS	0.0/3.3
34	IIS-OUT1	0.0/3.3
35	IIS-OUT2	0.0/3.3
36	VDDQ	3.3
37	VSSQ	0.0
38	FM-HOLD	3.1
39	REFREZE	0.0
40	-	-
41	AF OK	0.0
42	DSP-RST	3.1
43	RTCB	0.0
44	SHTCB	0.0
45	TSCAN	0.0
46	VDDQ	3.3
47	VSSQ	0.0
48	VDD	3.3
49	VSS	0.0
50	VSS	0.0
51	VDD	3.3
52	VSS	0.0
53	VSS	0.0
54	VSS	0.0
55	VSS	0.0
56	A0	0.0
57	SCL	0.6/5.4
58	SDA	0.2/5.4
59	RDS-CLK	0.0/3.3
60	RDS-DATA	0.0/3.3
61	SEL-FR	0.0
62	VSS-OSC	0.0
63	OSC-IN	0.0~3.1
64	OSC-OUT	0.0~3.1
65	VDD-OSC	3.3
66	AM-R/AM	1.6
67	AM-L	-
68	OPTION-R	1.6
69	OPTION-L	1.6
70	CDX3-R	1.6
71	CDX3-GND-R	1.6
72	CDX3-L	1.6
73	CDX3-GND-L	3.2
74	VDDAAD	3.3
75	VDACP	3.3
76	ADACN	0.0
77	VREFAD	1.7
78	RSES-R	1.6
79	RSES-L	1.6
80	FM-RDS	1.6

3. SUB DSP
IC202 PCB-MAIN

FM 98.1MHz,30.0%MOD,VOL MIN
BATT,ACC 13.2V

Pin No.	Pin Name	Voltage [V]
1	EESEL	0.0
2	JX0	-
3	SDIN3	-
4	SDIN2	-
5	SDIN1	0.0/3.3
6	CKS1	-
7	BVSS	0.0
8	DVSS	0.0
9	DVDD	3.3
10	SOUT4	-
11	SOUT3	-
12	SOUT2	0.0
13	SOUT1	0.0
14	BITCLK-I	0.0/3.3
15	LRCLK-I	0.0/3.3
16	BITCLK-O	-
17	LRCLK-O	-
18	RDY	3.1
19	DRDY	0.0
20	CS	-
21	DVDD	3.3
22	DVSS	0.0
23	CLKO1	0.0
24	CLKO2	0.0
25	XTO	-
26	XTI	0.0/3.3
27	DVSS	0.0
28	DVDD	3.3
29	SMODE	0.0
30	SO	0.0
31	SI	0.0/3.3
32	SCLK	0.0/3.3
33	RQ	0.0/3.3
34	S-RESET	3.1
35	INIT-RESET	3.1
36	CKS0	3.3
37	LFLT	1.3
38	AVSS	0.0
39	AVDD	3.3
40	AVDD	3.3
41	VREFH	3.3
42	VCOM	1.7
43	VREFL	0.0
44	AVSS	0.0
45	AINR-	-
46	AINR+	-
47	AINL-	-
48	AINL+	-

4. POWER-IC
IC307 PCB-MAIN

FM 98.1MHz,30.0%MOD,VOL MIN
BATT,ACC 13.2V

Pin No.	Pin Name	Voltage [V]
1	TAB	0.0
2	STBY	11.7
3	PGND	0.0
4	RL-	6.6
5	CD	0.9
6	RL+	6.6
7	VCC1	13.0
8	FL-	6.6
9	PGND	0.0
10	FL+	6.6
11	SVR	6.6
12	FLIN	6.5
13	RLIN	6.5
14	SGND	0.0
15	RRIN	6.5
16	FRIN	6.5
17	ACGND	6.5
18	FR+	6.6
19	PGND	0.0
20	FR-	6.6
21	VCC2	13.1
22	RR+	6.6
23	CK	0.7/5.4
24	RR-	6.6
25	PGND	0.0
26	DATA	0.8/5.6
27	TAB	0.0

5. Power supply
PCB-MAIN

BATT,ACC,ILL(13.2V)
(E)Emitter, (C)Collector
[V]

μ-COM 5V	
Q9A1(E)	5.0

Radio 8.5V	
Q901(E)	8.5

Rafio 5.0V	
Q911(E)	5.0

CD Power supply 8.0V	
Q931(E)	8.0

Analog 8.0V	
Q971(E)	8.0

DSP6.0V	
Q951(E)	6.0

DSP Digital 3.3V	
IC961(5)	3.3

DSP Analog 3.3V	
IC981(5)	3.3

ANT+B	
Q9D1(C)	13.2

WAVEFORM
MODEL : DY-6MW7U53-2

(Pin numbers are as measurement points.)

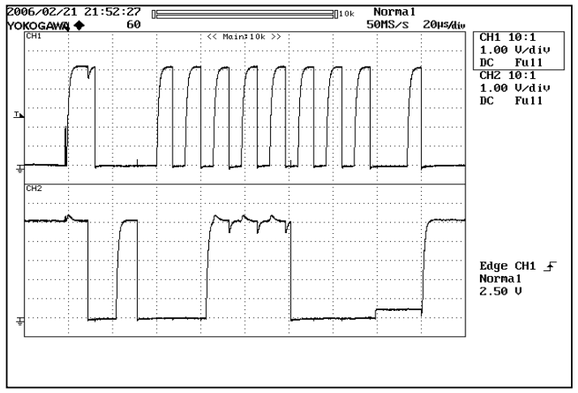
1. μ-COM

IC800 **PCB-MAIN**

CH1=27PIN(SCL, 5.0Vpp)
CH2=28PIN(SDA, 5.0Vpp)

Time axis : 20us/div

CH1
CH2



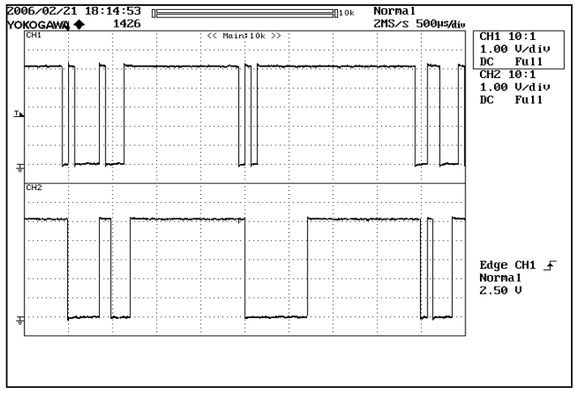
2. μ-COM

IC800 **PCB-MAIN**

CH1=29PIN(DISP-DATA-TXD, 5.0Vpp)
CH2=30PIN(SW-DATA-RXD, 5.0Vpp)

Time axis : 500us/div

CH1
CH2



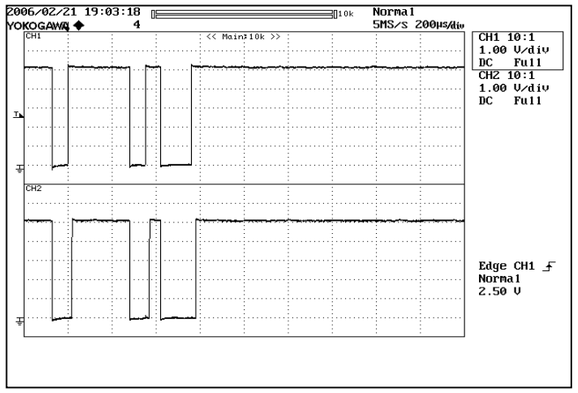
3. μ-COM

IC800 **PCB-MAIN**

CH1=33PIN(AMP/RSES(UART) PC-TXD, 5.0Vpp)
CH2=34PIN(AMP/RSES(UART) PC-RXD, 5.0Vpp)

Time axis : 200us/div

CH1
CH2



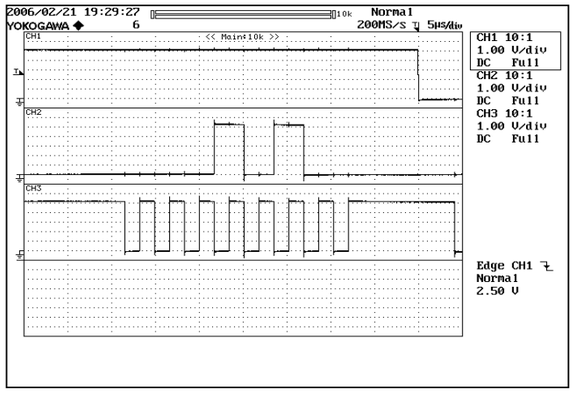
4. μ-COM

IC800 **PCB-MAIN**

CH1=98PIN(DSP-SDI, 5.0Vpp)
CH2=99PIN(DSP-SDO, 5.0Vpp)
CH3=100PIN(DSP-SCLK, 5.0Vpp)

Time axis : 5us/div
Cycle(CH3) : 294kHz

CH1
CH2
CH3



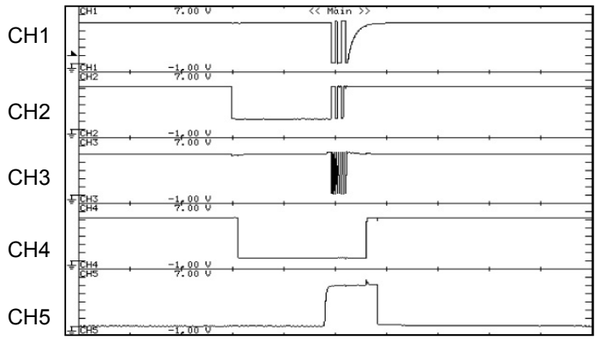
5. CD Connector

J700 **PCB-MAIN**

CH1=14PIN(D-STM, 5.0Vpp)
CH2=12PIN(D-MTS, 4.2Vpp)
CH3=13PIN(SCK, 5.0Vpp)
CH4=15PIN(MTS, 5.0Vpp)
CH5=16PIN(STM, 5.0Vpp)

Time axis : 100us/div

CH1
CH2
CH3
CH4
CH5



6. μ-COM

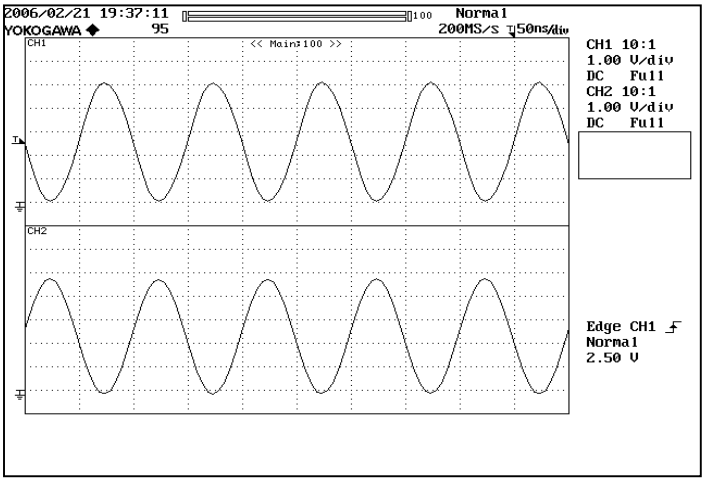
IC800 **PCB-MAIN**

CH1=11PIN(XOUT, 5.1Vpp)
CH2=13PIN(XIN, 4.9Vpp)

Time axis : 50ns/div
Cycle(CH2) : 10.0MHz

CH1

CH2



7. CDSP

IC204 **PCB-MAIN**

CH1=63PIN(OSC-IN, 3.2Vpp)
CH2=64PIN(OSC-OUT, 3.2Vpp)

Time axis : 50ns/div
Cycle(CH1) : 11.3MHz

CH1

CH2